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Final
Environmental Impact Statement
December 1981

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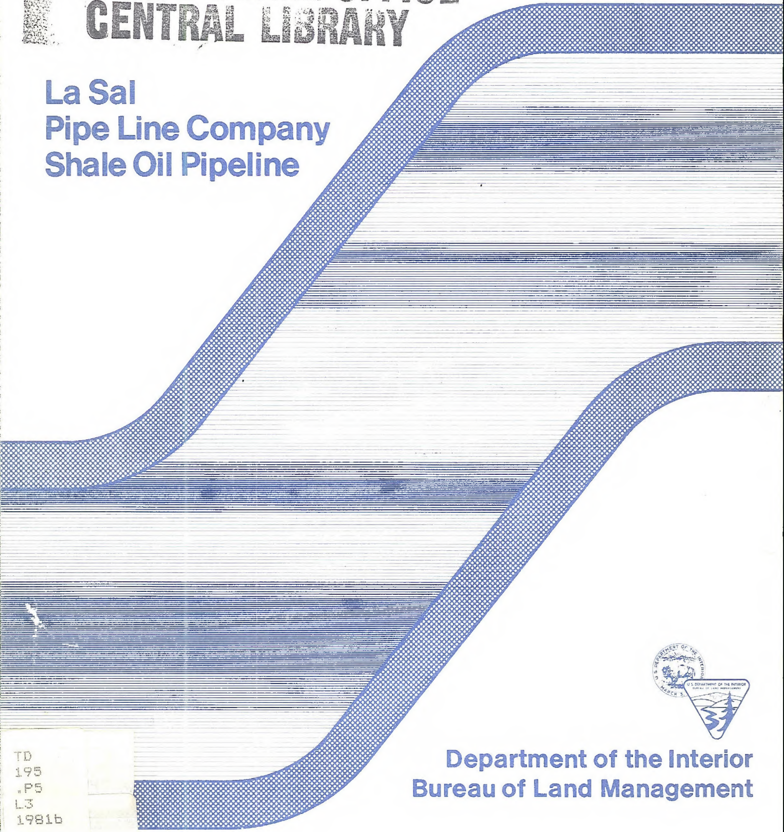
Shale Oil Pipeline



Department of the Interior
Bureau of Land Management

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
COLORADO STATE OFFICE
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Dear Reviewer:

This is the Final Environmenal Impact Statement (EIS) on the proposed La Sal Pipe Line Company Shale Oil Pipeline. It consists of a summary of the content of the Draft EIS, the substantive comments on the Draft EIS, the responses to the comments, and adjustment to the text made in response to the comments. The responses to the comments received on the Draft EIS did not require substantial changes in the data or analyses.

The Final EIS is not a decision document. The decision on the proposed pipeline will be based on the analysis contained in the Final EIS, and public concerns and comments. No action can be taken for thirty days following release of the Final EIS to the public. A record of decision outlining the decision and rationale will be prepared and made available subsequent to the waiting period.

Since this is an abbreviated Final EIS, the entire document for filing purposes consists of the Draft and Final EIS. Please refer to your copy of the Draft EIS for more detail in the analysis and description of the proposed action and alternatives.

Thank you for your participation in the preparation of this Environmental Impact Statement. Your help has been of great value in assisting us to process this application.

Sincerely yours,

Bob Moore

Robert Moore
Acting State Director

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FINAL ENVIRONMENTAL IMPACT STATEMENT
ON THE
LA SAL PIPE LINE COMPANY SHALE OIL PIPELINE

PREPARED BY

BUREAU OF LAND MANAGEMENT (LEAD AGENCY)
AND WOODWARD-CLYDE CONSULTANTS

DECEMBER 1981

Bob Moore
COLORADO STATE DIRECTOR

COVER SHEET

La Sal Pipe Line Company
Shale Oil Pipeline
Environmental Impact Statement

( ) Draft (X) Final

Lead Agency

U.S. Department of the Interior, Bureau of Land Management

Cooperating Agencies

U.S. Department of the Interior
Fish and Wildlife Service

U.S. Department of the Army
Corps of Engineers

Abstract

This EIS assesses the environmental effects of granting a right-of-way to construct a proposed 16-inch shale oil pipeline of about 320 miles from the vicinity of Parachute, Colorado, to Casper, Wyoming. The proposed project would contain a 12-inch lateral pipeline from the main trunkline to Rangely, Colorado. The purpose of the project would be to transport upgraded shale oil from the Piceance Basin to existing crude oil transportation facilities at Rangely, Colorado, and Casper, Wyoming. Alternatives assessed include: alternate routes for the main trunkline at river crossings, alternate routes for the Rangely lateral line, and denial of the right-of-way (no action). The major issues analyzed in the EIS were: biological and hydrological effects of river crossings, effects to wildlife and habitat, probabilities and effects of ruptures and spills, and economic and social effects of construction. Affected counties in Colorado would include Garfield, Rio Blanco, and Moffat counties; those in Wyoming are Carbon, Sweetwater, and Natrona counties.

EIS Contact

Questions and comments on this EIS should be directed to:

James Dean, EIS Coordinator
Bureau of Land Management
Colorado State Office
1037 20th Street
Denver, Colorado 80202

Phone: Commercial: (303) 837-6016 FTS: 327-6016

The decision on this proposed action will not be made before 30 days after issuance of this Final EIS. Comments will be accepted until the end of that 30-day time period.

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SUMMARY

La Sal Pipe Line Company (the applicant) proposes to construct 279 miles of 16-inch common carrier pipeline and related facilities to transport upgraded shale oil from the Roan Plateau, north of Parachute, Colorado, to Casper, Wyoming, with a 12-inch spur to Rangely, Colorado. From Casper, shale oil or refined products could be transported through existing pipelines to a variety of destinations in the Midwest. From Rangely, the oil could move through existing pipelines in Colorado and Wyoming, or to the Salt Lake City, Utah area.

In response to La Sal Pipe Line Company's right-of-way grant application to the Bureau of Land Management (BLM), Colorado State Office (CSO) (Application Number C-30969, filed November 3, 1980), the CSO was designated Lead Agency. The BLM Colorado State Director is responsible for the preparation of this Environmental Impact Statement (EIS) in accordance with the provisions of the National Environmental Policy Act (NEPA) and the regulations of the Council on Environmental Quality (CEQ).

The purpose of the proposed pipeline is to transport upgraded shale oil from a source location to existing transportation systems. The initial capacity of the pipeline would be approximately 50,000 barrels per day (BPD). If warranted, the system could have a larger capacity with the addition of intermediate pump stations. The proposed project would provide shippers with decision flexibility for destination and delivery scheduling and allow for redistribution or exchange of the oil in response to market conditions. Since the proposed pipeline would be a common carrier, the ultimate use and destination of the shale oil would be determined by prospective shippers.

In compliance with NEPA (40 CFR 1501.7), a public scoping process was conducted in the early stages of preparing this EIS. The scoping process consisted of ten public meetings and numerous contacts with affected agencies. During this process, the scope of issues to be analyzed and significant issues related to the proposed action were identified. A screening process was used to select reasonable alternatives to the proposed action. Of those considered, five alternatives were selected for detailed analysis--two alternative routings for the Rangely Lateral, two partial reroutings of the proposed trunkline, and the No Action Alternative (defined as BLM denial of a permit to the applicant for construction and operation of the proposed action).

The two Rangely lateral routes were analyzed as alternatives pending a decision by the applicant as to which route would be preferred for inclusion in the proposed action. The Southern Rangely Lateral Alternative (41 miles) would depart the proposed trunkline at milepost (MP) 21.75, while the Northern Rangely Lateral Alternative (35 miles) would depart it at MP 36.5. The White River Alternative (16 miles) would depart the proposed trunkline at MP 34.5 and rejoin it at MP 42.25. The Yampa River Alternative (38 miles) would depart the proposed trunkline at MP 49.5 and rejoin it at MP 86. The latter alternative would require relocation of one proposed pump station.

Construction, operation and maintenance of the following project components were considered in impact analysis:

1. 279 miles of 16-inch outside diameter (O.D.) trunkline

2. Either 35 or 41 miles of 12 3/4-inch O.D. lateral pipeline

3. One electric motor-driven pump station for initial transportation of 50,000 BPD

4. Three intermediate electric motor-driven pump stations to attain an ultimate capacity of 150,000 BPD for the proposed trunkline

5. Four storage tanks

6. Below-ground gate valves and above-ground scraper traps

7. Cathodic protection systems

8. Right-of-way markers

The EIS consists of four chapters, as well as Appendices which include a description of consultation and coordination, frameworks for analysis, a glossary of terms, references, an index and location maps. Chapter One describes project need and purpose. Chapter Two describes the proposed action and alternatives, and authorizing actions. Chapter Three describes those components of the affected environment for which potentially significant impacts were identified. Chapter Four describes the potential environmental consequences of the proposed action and alternatives, and addresses mitigation and monitoring.

A fundamental approach to this EIS is reflected in Chapter Two (Proposed Action and Alternatives). Numerous construction methods and resource considerations are incorporated as a part of the proposal. Implementation of these procedures for construction, operation and maintenance was assumed for the purpose of impact analysis. Inclusion of these applicant-proposed considerations and practices, in part, accounts for the relatively low number and magnitude of significant environmental impacts.

Detailed impact analyses were conducted for the following resources and topics:

- Climate
- Air Quality
- Geology (geologic hazards)
- Mineral Resources
- Paleontology
- Soils
- Water Resources (including 100-year Floodplains)
- Vegetation (including Threatened and Endangered Species)
- Wildlife (including Threatened and Endangered Species)
- Wild Horses
- Cultural Resources
- Visual Resources
- Noise
- Land Uses
  - -Agriculture (including Forests and Prime and Unique Farmlands)
  - -Livestock Grazing
  - -Recreation
  - -Wilderness
- Land Use Controls and Constraints
- Transportation
- Social and Economic Conditions
- Energy Use
- Oil Spills

Potentially significant adverse impacts were identified for the proposed action in the areas of Vegetation, Wildlife, Visual Resources, and Social and Economic Conditions. **Beneficial impacts were also identified for energy efficiency and Social and Economic Conditions.** Unknown impacts for the trunkline were identified for Paleontology, Cultural Resources, Threatened and Endangered Species, Prime and Unique Farmlands, and Spill Effects. All other resource analyses produced findings of no impact or no significant impact. These analyses and their findings are documented in Background Reports which are on file at the BLM Colorado and Wyoming State offices and the following

BLM District offices: Grand Junction, Craig, Rawlins, and Casper.

Comparison of potential impacts for each set of alternatives resulted in the following findings:

Comparison One: Southern Rangely Lateral (AB) versus Northern Rangely Lateral (DEB)

Only 7 percent of the Southern Rangely Lateral would be located near existing utilities, versus 66 percent of the Northern Rangely Lateral. In addition, construction of the Southern Rangely Lateral would result in:

- Disturbance of six additional miles or 73 additional acres
- Potentially significant impact to mule deer critical winter range
- Potentially significant impact to eight additional miles of visual resources, and **several** additional ~~VRM Class II~~ creek ~~or river~~ crossings

Comparison Two: Proposed Trunkline White River Segment (CDF) versus White River Trunkline Alternative (CEF)

Although construction of the White River Trunkline Alternative would result in disturbance of five additional miles or 61 acres more than the Proposed Trunkline segment, other potential environmental consequences were found to be similar.

Comparison Three: Proposed Trunkline Yampa River Segment (GI) versus Yampa River Trunkline Alternative (GHI)

The decision of which of these route segments constitutes the Agencies' Preferred Alternative is the solely remaining unresolved issue associated with this EIS. Since the issuance of the DEIS, BLM has made several field visits to the area of environmental concern (Spring Creek area). It has been determined that a pipeline ROW could readily avoid the riparian vegetation which had been the source of two previously identified significant impacts (vegetation and wildlife).

One remaining environmental concern is based on an area near Spring Creek which is subject to severe natural erosion. The BLM Craig District Manager has requested further study of the area by soils scientists and reclamation specialists. The feasibility (and cost) of a successful mitigation program is currently under study. This special study will be used in the determination of the Agencies' Preferred Alternative prior to issuance of the Decision Document early in 1982.

CONSULTATION AND COORDINATION

THE SCOPING PROCESS

The Council on Environmental Quality's Final Regulations for Implementing the National Environmental Policy Act (40 CFR, Part 1501.7) require an early and open scoping process prior to initiating an Environmental Impact Statement. The major purpose of the process is to identify the significant issues associated with the proposed project in order to develop and limit the scope of the EIS.

An additional purpose of the scoping process is to inform potentially affected federal, state and local agencies and other interested persons and organizations about the proposal. Existing environmental reports and data related to the proposal are also identified, along with necessary consultation and review requirements. The ultimate objective of the scoping process is to enhance better decisions through the achievement of these purposes. By emphasizing significant issues in the EIS, the magnitude of paperwork and the length of the statement may also be reduced.

Public Scoping Meetings

Having been announced through existing mailing lists and local and regional media, 10 public scoping meetings were held (see Table 1) over a three-week period in January and February, 1981. A detailed summary for each meeting, attendance lists, written comments solicited during the meetings, and a public announcements record is on file with the BLM Colorado State Office. A brief summary of each meeting follows.

Craig, Colorado. The discussion focuse mainly on concerns of private land owners whose properties may be used for the pipeline. Issues raised included harrassment of livestock from pipeline inspection overflights (especially during lambing season), unauthorized use of new access from the ROW by hunters, and just compensation for easements and the annoyances associated with them. Other issues needing attention are the proposed Juniper and Cross Mountain reservoirs on the Yampa River. The desire for the route to follow existing pipelines where possible was also expressed.

Grand Junction, Colorado. Three areas of interest were raised at these meetings. A request that power sources for pump stations be identified was made to aid in local utilities' planning. Consideration of a variety of means for housing the construction work force in the Meeker and Rifle areas should be given. A question was raised concerning the compatibility of the proposal to carry upgraded shale oil with the needs of companies who want to ship nonupgraded shale oil. One individual expressed a concern that wildlife habitat not be disturbed during periods of critical use by deer and elk.

Rawlins, Wyoming. Strong support for efforts to follow existing pipelines was expressed in terms of a desire to reduce potential disruption to agricultural lands. A request was made to reduce the amount of surface disturbance to the minimum necessary. Questions regarding construction work force use of Baggs, Wyoming were asked. The notation was made that two county roads and two undedicated county roads would be crossed by the proposed route.

Casper, Wyoming. Consequences of a spill from a pipeline rupture should be considered in detail for the Pathfinder Reservoir and its tributary, the Sweetwater River. Tributaries of the North Platte (Fish and Horse creeks) should also be considered in mitigation developed to prevent spills in waterways.

Cheyenne, Wyoming. Two issues were raised at these meetings. The structural integrity of stream banks and the

Table 1. PUBLIC SCOPING MEETINGS

1981	Location
January 26	Craig, CO
January 27[a]	Grand Junction, CO
February 2	Rawlins, WY
February 3	Casper, WY
February 4[a]	Cheyenne, WY
February 5[a]	Denver, CO
February 9	Meeker, CO

[a] Two meetings (one afternoon, one evening) were held at these locations. One evening meeting was held at each of the other locations.

channel of the Sweetwater River should be considered, and a concern regarding the restoration of damaged snow fences was expressed.

Denver, Colorado. A number of general issues were raised for consideration in the environmental assessment. These included: geologic hazards; state highway crossings; housing of construction workers; effects of ruptures and spills; land reclamation; effects to wildlife and critical habitat for wildlife; and compatibility with mineral resources development. Questions regarding the use of this ROW by other pipelines and the compatibility of upgraded and raw shale oil in the pipeline were raised. One person requested that a detailed monitoring plan for the proposal be developed for the EIS or the Plan of Operations.

Meeker, Colorado. The discussion focused on three issues: low capacities of certain services; location of the route with respect to other shale oil tracts; and a request to reduce disturbance of irrigated lands to the greatest possible extent.

Currently, there is a shortage of both permanent and temporary housing in Meeker, and it could not be assumed that either housing or schools would have any excess capacity by 1984 or 1985. Transportation networks in the Piceance Creek basin are limited and already heavily used. Recently, temporary accomodation of a power line construction work force created an increase in traffic accidents in and around Meeker.

The second area of discussion centered on the ultimate need for more shale oil transportation than could be provided by the capacity of this proposal. This concern was expressed in terms of pipeline capacity, products compatibility, the need for more pipelines, and the location of this proposal with respect to proposed and developing shale oil mining tracts.

Summary of Other Issues

Along with issues already summarized, a number of interests and requests for consideration were expressed during the formal and informal sessions of the public meetings and in letters responding to the scoping meetings announcements. The following listing represents a prioritization of issues, based on qualitative analysis.

- Consequences of ruptures and spills to:
  - Waterways:
    - Pathfinder
    - Sweetwater River
    - Fish Creek
    - Horse Creek
    - Yampa River
    - White River and
  - Cultivated hay fields
- Temporary housing (and associated facilities) for construction work force, especially in Rifle, Meeker, Craig and Rawlins.
- Permanent housing (and associated services) for 25 operations workers in Meeker.
- Consideration of mitigation of potential impacts for the following:
  1. Road and stream crossings
  2. Landslide-prone areas
  3. Critical wildlife use areas (sage grouse strutting, eagle nesting, fish spawning, and big game winter ranges)
  4. Damaged fences and disturbed vegetation
  5. Transportation networks, especially in the Piceance Creek basin

SUMMARY OF PUBLIC PARTICIPATION ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The DEIS was filed with the Environmental Protection Agency (Int-DEIS-81-32) in August 1981 and a notice appeared in the Federal Register, Vol. 46, No. 150, August 5, 1981. Numerous public notices were distributed announcing issuance of the DEIS and notices of the public hearings. Approximately 1000 copies of the DEIS were distributed by mail to various individuals, organizations, and government agencies. In addition, there were copies available at the BLM offices along the route.

During the public comment period (August 9 to October 9, 1981) several public hearings were conducted to solicit public comments regarding the proposed action and alternatives. Below are summaries of meetings and presentations, followed by comments received and responses to them.

Public Hearings

Public hearings were held to hear views about the adequacy of the DEIS and the alternatives presented therein. Particulars of the hearings are summarized below. Specific comments and responses are contained in the Comments and Responses section.

Meeker, Colorado - September 14, 1981

One oral comment was received.

Northwest Pipeline is considering laying a 16" natural gas pipeline from their compressor station (T2S-R96W) to the "Parachute" station. The initial maps indicate this route parallels part of the route analyzed in the EIS. While no official application has yet been made, Northwest Pipeline is recommending to the BLM this area be considered a corridor. Northwest would propose to start their construction before La Sal; coordination between the two companies was suggested.

Craig, Colorado - September 19, 1981

One written comment letter was received from the firm Kourlis, Thornberry and Young. This is comment letter 8 in the Comments and Responses section.

One oral comment was received from a representative of the Colorado River Water Conservation District. It pointed out two proposed reservoir sites exist along the alternative routes. The comment questioned whether pipeline maintenance or operation might be affected by their presence.

Cheyenne, Wyoming - September 16, 1981

No written or oral comments were received.

Denver, Colorado - September 17, 1981

No written or oral comments were received at two hearings.

Comments and Responses

During the comment period 23 letters from the public and agencies were received. Individuals or organizations who sent letters are listed in Table 2. Table 3 lists the two speakers at the public hearings. All letters are reproduced here in their entirety. The responses are presented adjacent to the comments in each letter.

Responses have been made to all substantive comments presented in the letters and hearings transcripts. Substantive comments were considered to be those which addressed either the adequacy of the DEIS or the merits of the alternatives or both. Comments received after the deadline for inclusion in the

Table 2. COMMENT LETTERS RECEIVED

Assigned Number (In Order of Receipt)	Name of Commentor
1	Continental Divide Trail Society
2	Department of Housing and Urban Development, Region XIII, Denver
3	U.S. Department of the Interior, Bureau of Mines, Intermountain Field Operations Center, Denver
4	Water Users Association No. 1
5	Department of Health and Human Services, Region VIII, Denver
6	U.S. Department of Commerce a) National Oceanic and Atmospheric Administration, National Ocean Survey
7	Department of Energy, Office of Energy Research
8	Kourlis, Thornberry and Young
9	Allen Kihm
10	U.S. Army Corps of Engineers, Sacramento District
11	U.S. Department of Agriculture, Soil Conservation Service, Denver
12	U.S. Department of Transportation, Federal Highway Administration, Region Eight, Denver
13	U.S. Army Corps of Engineers, Omaha District
14	U.S. Department of the Interior, Bureau of Reclamation, Lower Missouri Region, Denver
15	Colorado Historical Society
16	U.S. Department of the Interior, Fish and Wildlife Service, Colorado-Utah Area Office, Salt Lake City

Table 2. COMMENT LETTERS RECEIVED (concluded)

Assigned Number (In Order of Receipt)	Name of Commentor
17	Mobil Oil Corporation
18	State of Wyoming, Wyoming Executive Department a) Game and Fish Department b) Water Development Commission c) State Engineer's Office d) Wyoming Recreation Commission e) The Geologic Survey of Wyoming f) Wyoming State Highway Department g) Department of Economic Planning and Development
19	State of Colorado, Department of Local Affairs, Division of Local Government a) Department of Highways b) Commission on Higher Education c) Colorado Geological Survey d) Office of the State Engineer e) Division of Wildlife f) Department of Education g) Public Utilities Commission
20	Town of Rangely
21	U.S. Department of the Interior, National Park Service, Rocky Mountain Regional Office, Denver
22	U.S. Department of the Interior, Geological Survey
23	U.S. Environmental Protection Agency, Region VIII, Denver

DEIS will be responded to by letter and will receive full consideration in the final decision.

Table 3. PUBLIC HEARING SPEAKERS

Speaker Index No.	Name	Meeting Location
1	Robert Bleil	Meeker, CO
2	Eric Kuhn	Craig, CO

Public Hearing Statements and Comments

Copies of verbatim transcripts are a part of the EIS record (available in the La Sal EIS background files, BLM CSO). The full transcripts will be considered with equal weight in the final decision to that given to letter comments.

Meeker Public Hearing

Comment from Robert Bleil:

I'm Robert Bleil, spelled B-l-e-i-l, representing Northwest Pipeline.

I got a call from our Salt Lake Office--I'm out of the Grand Junction Office--and found out just a few days ago that we are considering laying a natural gas pipeline, 16 inch, from our Piceance Creek compressor station located in Magnolia Camp, which begins in 2 south, range 96 west and goes on down to the Union Oil Shale Project, the proposed Parachute Station. That 16-inch line would be used for natural gas for the duration of the project and in looking at the alignment that I got from them, one of the things they wanted me to do was compare La Sal's alignment and Rocky Mountain Natural Gas' alignment with ours; and I found that initially from the map they gave me, that we pretty well parallel La Sal's just about to a "T."

We have not made, as of this date, an official application in the Colorado State Office, but are planning to shortly and we are, therefore, recommending that this be considered by BLM as a corridor so that in the near future when final plans are made, that we could pretty well go ahead with our project with a minimal amount of effort. We feel it will save BLM some time also. (1)

Response 1:

The EIS analyzed a corridor one hundred feet wide over the length of the proposed action and alternatives. An application for an additional pipeline within the analyzed corridor would likely be covered by the La Sal EIS concerning potential impacts. However, since there would be more than one pipeline constructed in the right-of-way, there would be some additional impacts that would not be covered in the EIS. A supplementary environmental assessment would likely be prepared for such an application. The application would be made under the provisions of the regulations for oil and gas pipelines (43 CFR, Part 2880). All requirements of these regulations would have to be met by the applicant prior to issuance of a right-of-way grant. This includes compliance with laws pertaining to threatened and endangered species and cultural resources, and the development of stipulations in a plan of operations, maintenance, and abandonment.

Craig Public Hearing

Comments from Eric Kuhn:

My name is Eric Kuhn, K-u-h-n, and I represent the Colorado River Water Conservation District. The address is Post Office Box 1120, Glenwood Springs, Colorado, 81602.

I have no major comments other than to state that the environmental impact

(1) statement did not mention the potential reservoir sites along the path of the proposed pipeline or its alternatives.

Now, there are two of them that are in the process of being developed--the environmental impact statement process. That is the--the first is the Taylor Draw Dam and reservoir which is located east of Rangely. The second is the Juniper-Cross Mountain reservoirs--it's actually two.

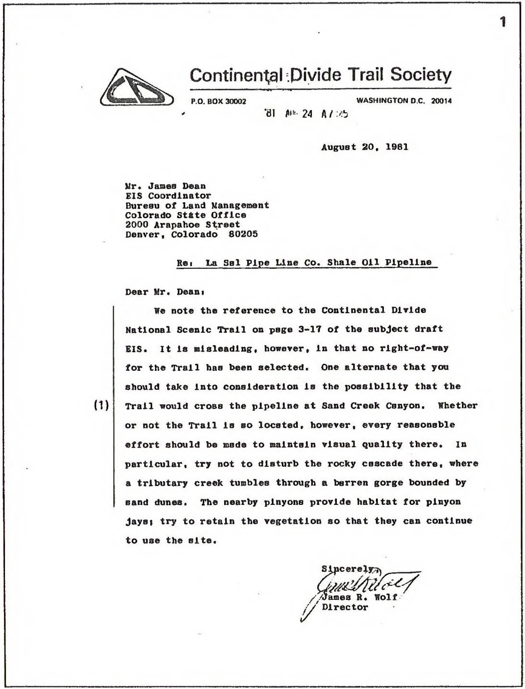
It appears from our review of the environmental impact statement that there will be no problems because the proposed pipeline will be going underneath the reservoirs and it doesn't look like it's going to be any different--like there's going to be any difference between going underneath the reservoir site or going underneath the river as it presently is. However, I would question whether or not if, in the future, the reservoirs are built, if perhaps maintenance or other aspects of the operation of the pipeline might be hindered by the presence of the reservoirs. (2)

Response 1:

The coincidental location of the proposed reservoirs was identified in the scoping process. These facts are documented in the EIS files. Since no potential conflicts were identified, discussion of the reservoirs was not included in the DEIS.

Response 2:

No special problems are anticipated. The compatible relationship of pipeline operation in locations beneath bodies of water has a long history.



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Continental Divide Trail Society

P.O. BOX 30002 WASHINGTON D.C. 20014

'81 AUG 24 A7:45

August 20, 1981

Mr. James Dean
EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Re: La Sal Pipe Line Co. Shale Oil Pipeline

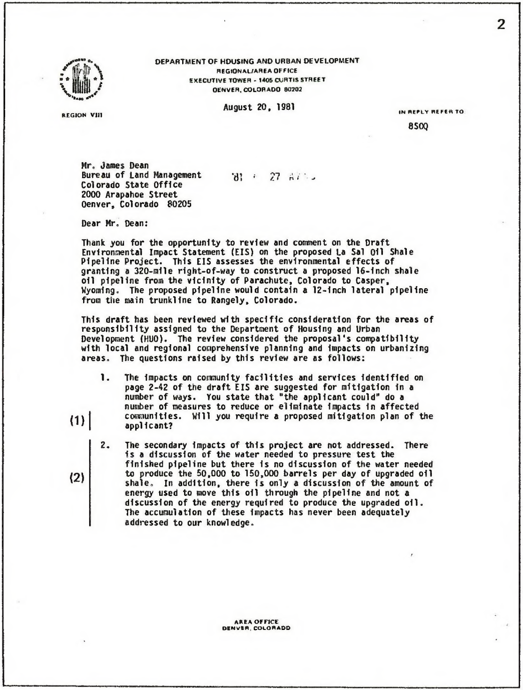
Dear Mr. Dean:

(1) We note the reference to the Continental Divide National Scenic Trail on page 3-17 of the subject draft EIS. It is misleading, however, in that no right-of-way for the Trail has been selected. One alternate that you should take into consideration is the possibility that the Trail would cross the pipeline at Sand Creek Canyon. Whether or not the Trail is so located, however, every reasonable effort should be made to maintain visual quality there. In particular, try not to disturb the rocky cascade there, where a tributary creek tumbles through a barren gorge bounded by sand dunes. The nearby pinyons provide habitat for pinyon jays; try to retain the vegetation so that they can continue to use the site.

Sincerely,

James R. Wolf
James R. Wolf
Director

(1) The text has been revised to clarify the status of the trail and its possible location at Sand Creek Canyon. See DEIS pp. 3-13 and 4-7.



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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL/AREA OFFICE
EXECUTIVE TOWER - 1405 CURTIS STREET
DENVER, COLORADO 80202

REGION VIII

August 20, 1981

IN REPLY REFER TO
8SOQ

Mr. James Dean
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

'81 27 A

Dear Mr. Dean:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (EIS) on the proposed La Sal Oil Shale Pipeline Project. This EIS assesses the environmental effects of granting a 320-mile right-of-way to construct a proposed 16-inch shale oil pipeline from the vicinity of Parachute, Colorado to Casper, Wyoming. The proposed pipeline would contain a 12-inch lateral pipeline from the main trunkline to Rangely, Colorado.

This draft has been reviewed with specific consideration for the areas of responsibility assigned to the Department of Housing and Urban Development (HUD). The review considered the proposal's compatibility with local and regional comprehensive planning and impacts on urbanizing areas. The questions raised by this review are as follows:

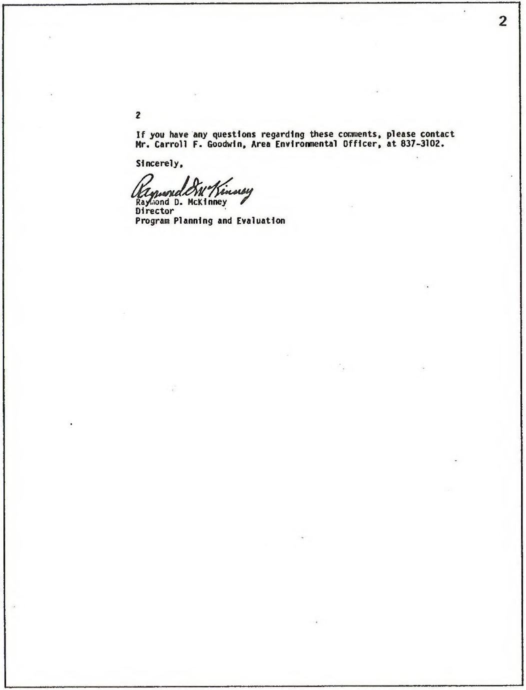
1. The impacts on community facilities and services identified on page 2-42 of the draft EIS are suggested for mitigation in a number of ways. You state that "the applicant could" do a number of measures to reduce or eliminate impacts in affected communities. Will you require a proposed mitigation plan of the applicant? (1)

2. The secondary impacts of this project are not addressed. There is a discussion of the water needed to pressure test the finished pipeline but there is no discussion of the water needed to produce the 50,000 to 150,000 barrels per day of upgraded oil shale. In addition, there is only a discussion of the amount of energy used to move this oil through the pipeline and not a discussion of the energy required to produce the upgraded oil. The accumulation of these impacts has never been adequately addressed to our knowledge. (2)

AREA OFFICE
DENVER, COLORADO

(1) The applicant is required by the 43 CFR, Part 2880 Regulations to submit a "Plan of Operations, Maintenance, and Abandonment" as part of its application for a right-of-way. The detailed operations plan has to be approved by the BLM prior to issuance of the right-of-way grant.

(2) The impacts of water and energy needed to produce the upgraded shale oil of the only identified shipper was discussed adequately in the 1977 final EIS on the Colony Project. Other EISs in process or in the future will address the issues of water and energy with respect to individual projects. Water use is presently being addressed through compliance with NEPA on a number of projects pending or planned in the region. Energy use is required to be addresssed in all EISs.

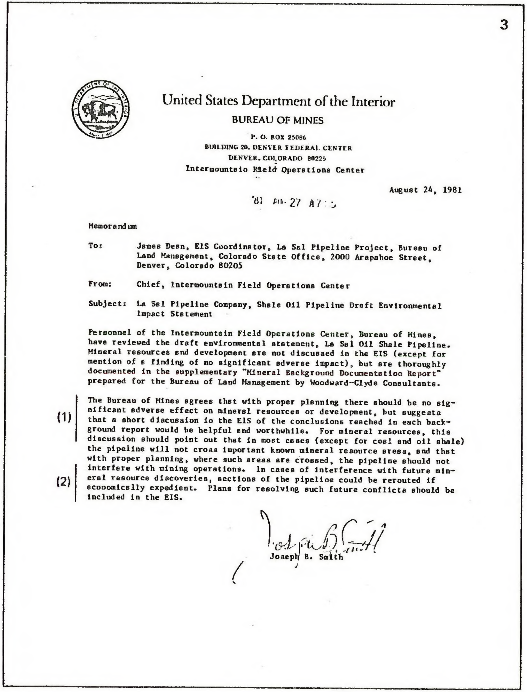


If you have any questions regarding these comments, please contact Mr. Carroll F. Goodwin, Area Environmental Officer, at 837-3102.

Sincerely,

Raymond D McKinney

Raymond D. McKinney
Director
Program Planning and Evaluation



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United States Department of the Interior
BUREAU OF MINES
P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225
Intermountain Field Operations Center

August 24, 1981

'81 AUG 27 A7

Memorandum

To: James Dean, EIS Coordinator, La Sal Pipeline Project, Bureau of Land Management, Colorado State Office, 2000 Arapahoe Street, Denver, Colorado 80205

From: Chief, Intermountain Field Operations Center

Subject: La Sal Pipeline Company, Shale Oil Pipeline Draft Environmental Impact Statement

Personnel of the Intermountain Field Operations Center, Bureau of Mines, have reviewed the draft environmental statement, La Sal Oil Shale Pipeline. Mineral resources and development are not discussed in the EIS (except for mention of a finding of no significant adverse impact), but are thoroughly documented in the supplementary "Mineral Background Documentation Report" prepared for the Bureau of Land Management by Woodward-Clyde Consultants.

(1) The Bureau of Mines agrees that with proper planning there should be no significant adverse effect on mineral resources or development, but suggests that a short discussion in the EIS of the conclusions reached in each background report would be helpful and worthwhile. For mineral resources, this discussion should point out that in most cases (except for coal and oil shale) the pipeline will not cross important known mineral resource areas, and that with proper planning, where such areas are crossed, the pipeline should not interfere with mining operations. (2) In cases of interference with future mineral resource discoveries, sections of the pipeline could be rerouted if economically expedient. Plans for resolving such future conflicts should be included in the EIS.

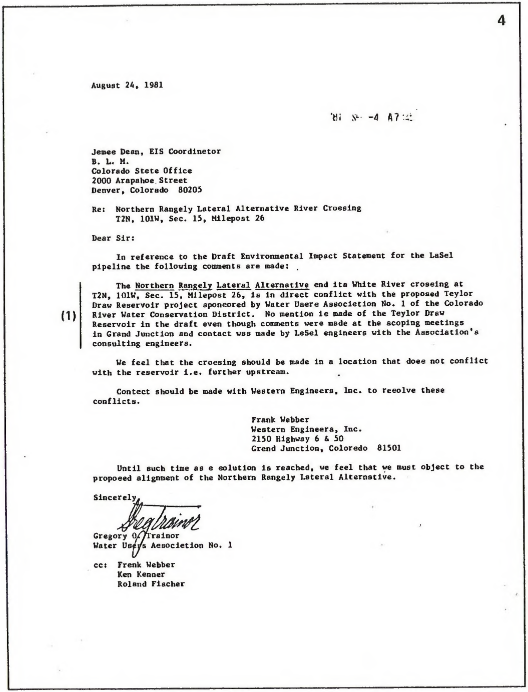
Joseph B. Smith

---

(1) See the DEIS, p. B-1, paragraph 1.

The intent of the DEIS is to summarize from all technical reports findings of only those potential impacts that might be considered significant, as determined by the criteria of significance defined in the Frameworks for Analysis contained in DEIS Appendix B.

(2) Possible mineral development which might create conflicts with the pipeline over its lifetime was considered. The proposed pipeline system has been carefully located to minimize potential conflicts. If a conflict does arise in the future, the applicant would negotiate with the mineral developer to resolve the issue. The applicant is aware of this possibility. A standard stipulation in the right-of-way grant will cover this issue.



4

August 24, 1981

'81 SEP -4 A7:[illegible]

James Dean, EIS Coordinator
B. L. M.
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Re: Northern Rangely Lateral Alternative River Crossing
T2N, 101W, Sec. 15, Milepost 26

Dear Sir:

In reference to the Draft Environmental Impact Statement for the LaSal pipeline the following comments are made:

(1) The Northern Rangely Lateral Alternative end its White River crossing at T2N, 101W, Sec. 15, Milepost 26, is in direct conflict with the proposed Taylor Draw Reservoir project sponsored by Water Users Association No. 1 of the Colorado River Water Conservation District. No mention is made of the Taylor Draw Reservoir in the draft even though comments were made at the scoping meetings in Grand Junction and contact was made by LaSal engineers with the Association's consulting engineers.

We feel that the crossing should be made in a location that does not conflict with the reservoir i.e. further upstream.

Contact should be made with Western Engineers, Inc. to resolve these conflicts.

Frank Webber
Western Engineers, Inc.
2150 Highway 6 & 50
Grand Junction, Colorado 81501

Until such time as a solution is reached, we feel that we must object to the proposed alignment of the Northern Rangely Lateral Alternative.

Sincerely,

Greg Trainor

Gregory O. Trainor
Water Users Association No. 1

cc: Frank Webber
Ken Kenner
Roland Fischer

(1) The DEIS evaluated the relationship of the proposed project to the existing environment, including known or firmly committed water resources projects. One of the worst case scenarios for oil spill effects included an existing reservoir (Pathfinder Reservoir). Since the proposed La Sal project would be constructed prior to the proposed Taylor Draw Reservoir project (if approved), no construction related effects (e.g., turbidity, etc.) would occur in a future Taylor Draw Reservoir. The likelihood of a direct spill into the reservoir would be low. The oil spill contingency plan existing in the Oil Spill Analysis Background Report will be incorporated into the Plan of Operations for the right-of-way grant.

5

DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of the
Principal Regional Official

Region VIII
Federal Office Building
1961 Stout Street
Denver CO 80294

September 3, 1981

ROFEC

Mr. George C. Francis
State Director
Colorado State Office
Bureau of Land Management
U. S. Dept. of the Interior
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Francis:

We have reviewed the Draft Environmental Impact Statement on the proposed 320-mile oil pipeline to be developed from Parachute, Colorado to Casper, Wyoming.

We agree with the conclusions on the impact in relation to the social and economic conditions in seven of the nine communities affected, namely, that short term demands on housing and community services in Parachute, Rifle, Rangely, Meeker, Craig, Maybell and Baggs will be exacerbated by the cumulative development of numerous energy development projects and revenues in these communities will lag behind the increased service demands.

Sincerely yours,

for E. W. McIntire, R. A.
Director, ROFEC

6

GENERAL COUNSEL OF THE
UNITED STATES DEPARTMENT OF COMMERCE
Washington, D.C. 20230

'81 SEP -8 AM

SEP 2 1981

Mr. James Dean
EIS Coordinator
Bureau of Land Management
U.S. Department of the Interior
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Dean:

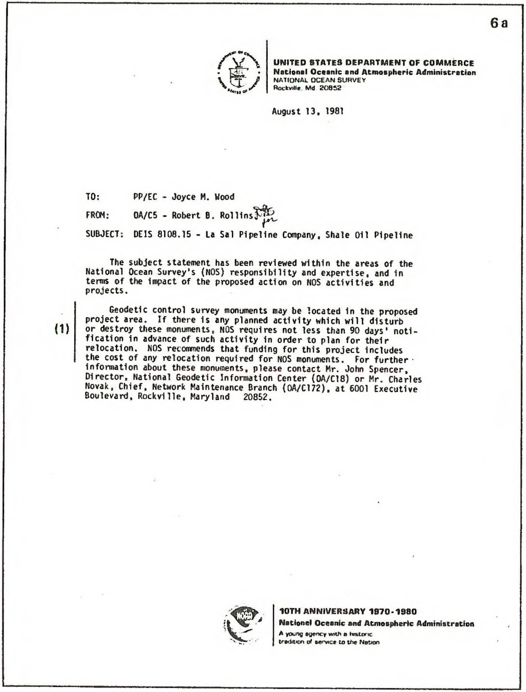
This is in reference to your draft environmental impact statement entitled, "La Sal Pipeline Company, Shale Oil Pipeline." The enclosed comment from the National Oceanic and Atmospheric Administration is forwarded for your consideration.

Thank you for giving us an opportunity to provide this comment, which we hope will be of assistance to you. We would appreciate receiving four copies of the final environmental impact statement.

Sincerely,

Robert T. Miki
Director of Regulatory Policy

Enclosure Memo from: Robert B. Rollins
National Ocean Survey
National Oceanic and Atmospheric Administration



6a

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md 20852

August 13, 1981

TO: PP/EC - Joyce M. Wood

FROM: OA/C5 - Robert B. Rollins

SUBJECT: DEIS 8108.15 - La Sal Pipeline Company, Shale Oil Pipeline

The subject statement has been reviewed within the areas of the National Ocean Survey's (NOS) responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

(1) Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation required for NOS monuments. For further information about these monuments, please contact Mr. John Spencer, Director, National Geodetic Information Center (OA/C18) or Mr. Charles Novak, Chief, Network Maintenance Branch (OA/C172), at 6001 Executive Boulevard, Rockville, Maryland 20852.

10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
A young agency with a historic tradition of service to the Nation

(1) No geodetic control survey monuments are known to occur in the area potentially affected. A standard stipulation in the right-of-way grant will address survey monuments.

7

Department of Energy
Washington, D.C. 20545

SEP 10 1981

Mr. James Dean, EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Dean:

I have been asked to review and provide comments on the Bureau's Draft Environmental Impact Statement on the La Sal Pipeline Company Shale Oil Pipeline.

The discussions of the proposed action, the affected environments, and environmental consequences are concise and well written. I have no specific or general comments on those sections. However, the document could be greatly enhanced by including discussions of existing oil shale assessments, the current state of affairs with significant oil shale projects, and related actions which the Bureau anticipates. Such discussions would also help to settle confusion which may exist with many readers as to the relationship of this proposed action to other events. Specifically, I recommend that the following issues be addressed in the sections which deal with the Need and Purpose and the National Environmental Policy Act goals:

(1)

- o Discussion of the earlier Colony project Environmental Impact Statement, what it contains, the relationship of the action proposed in that Statement to the currently proposed action, what changes in plans have been made, and, in general, the significance and relevance to assessments made at that time to the current decision.
- o Discussion of other actions which the Bureau of Land Management can anticipate at this time in view of the current state of oil shale development and the contribution which the La Sal Pipeline would make to the developing industry.
- o A brief report on the status of oil shale ventures in the Piceance Creek Basin. This should include discussion on the Department of the Interior's Prototype Leases, the Union Oil Company Project, the Colony Project, and other projects being developed with private funding. A projected shale oil production schedule for each project and the collective production, as well as the likely methods for transport of shale oil to refining facilities, would be germane to the subject of this Statement.

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(1) The Colony Project was the subject of a 1977 EIS by the BLM. The identification of Colony as the first named shipper was made during scoping for this proposal. Since no comments were received on the identity of prospective shippers, the issue was not discussed in the draft EIS. The text has been revised to reflect the relationship of the proposal to the Colony Project and to any other potential shippers. See DEIS p. 1-2.

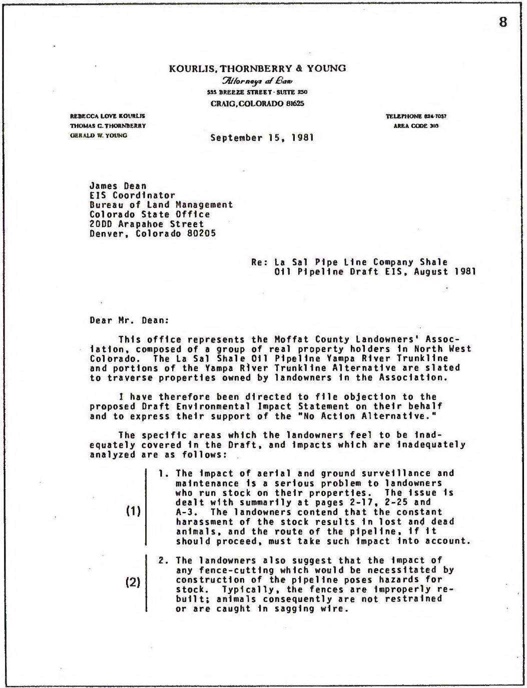
The EIS does not describe anticipated oil shale development, other than the Colony Project. The EIS is limited to the effects of construction and operation of the proposed pipeline. These future developments will fulfill permit or approval requirements through compliance with NEPA.

7

(1) o A brief discussion and reference to other assessments which have been performed relevant to oil shale development and energy policy. Numerous reports have been assembled over the past five to six years since the Colony Environmental Impact Statement was published which assemble and analyze environmental data bases relevant to oil shale; the reader who is not aware should be referred to this literature for indepth discussion of the various issues.

Sincerely,

Ralph E. Franklin
Oil Shale R&D Coordinator
Office of Health and
Environmental Research
Office of Energy Research



8

KOURLIS, THORNBERRY & YOUNG
Attorneys at Law
535 BREEZE STREET - SUITE 250
CRAIG, COLORADO 81625

REBECCA LOVE KOURLIS
THOMAS C. THORNBERRY
GERALD W. YOUNG

TELEPHONE 824-7057
AREA CODE 303

September 15, 1981

James Dean
EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Re: La Sal Pipe Line Company Shale
Oil Pipeline Draft EIS, August 1981

Dear Mr. Dean:

This office represents the Moffat County Landowners' Association, composed of a group of real property holders in North West Colorado. The La Sal Shale Oil Pipeline Yampa River Trunkline and portions of the Yampa River Trunkline Alternative are slated to traverse properties owned by landowners in the Association.

I have therefore been directed to file objection to the proposed Draft Environmental Impact Statement on their behalf and to express their support of the "No Action Alternative."

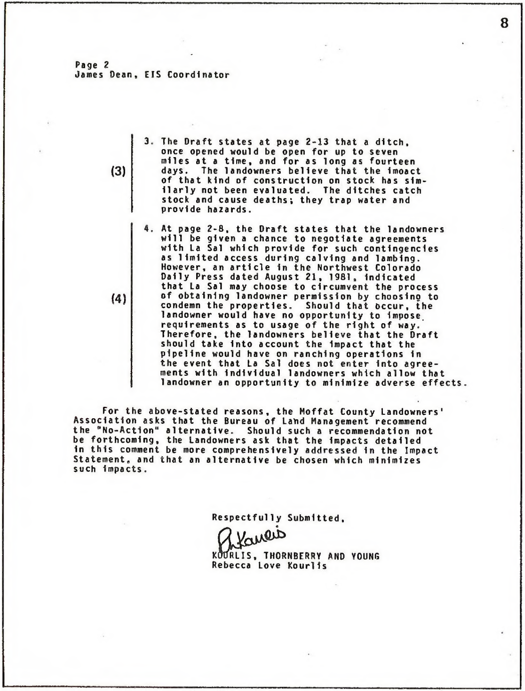
The specific areas which the landowners feel to be inadequately covered in the Draft, and impacts which are inadequately analyzed are as follows:

(1) 1. The impact of aerial and ground surveillance and maintenance is a serious problem to landowners who run stock on their properties. The issue is dealt with summarily at pages 2-17, 2-25 and A-3. The landowners contend that the constant harassment of the stock results in lost and dead animals, and the route of the pipeline, if it should proceed, must take such impact into account.

(2) 2. The landowners also suggest that the impact of any fence-cutting which would be necessitated by construction of the pipeline poses hazards for stock. Typically, the fences are improperly rebuilt; animals consequently are not restrained or are caught in sagging wire.

(1) The issue is beyond the authority of the BLM to stipulate in its right-of-way grant process. How high should planes fly to avoid harassment? What times of the year should there be no disturbance to avoid harassment? These and other questions should be addressed to the applicant. There are limits to the propriety and advisability of the BLM getting involved in private negotiations between the affected land owners and the applicant. The BLM would insert in a right-of-way grant for the proposal a general protective stipulation that the applicant would make every reasonable effort to avoid deliberate disturbance of livestock and wildlife. See the DEIS, p. 2-8.

(2) A stipulation in all BLM right-of-way grants requires fences to be rebuilt using standard fence construction techniques. The applicant has been supplied with BLM standards for fence construction.



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Page 2
James Dean, EIS Coordinator

(3) 3. The Draft states at page 2-13 that a ditch, once opened would be open for up to seven miles at a time, and for as long as fourteen days. The landowners believe that the imoact of that kind of construction on stock has similarly not been evaluated. The ditches catch stock and cause deaths; they trap water and provide hazards.

(4) 4. At page 2-8, the Draft states that the landowners will be given a chance to negotiate agreements with La Sal which provide for such contingencies as limited access during calving and lambing. However, an article in the Northwest Colorado Daily Press dated August 21, 1981, indicated that La Sal may choose to circumvent the process of obtaining landowner permission by choosing to condemn the properties. Should that occur, the landowner would have no opportunity to impose requirements as to usage of the right of way. Therefore, the landowners believe that the Draft should take into account the impact that the pipeline would have on ranching operations in the event that La Sal does not enter into agreements with individual landowners which allow that landowner an opportunity to minimize adverse effects.

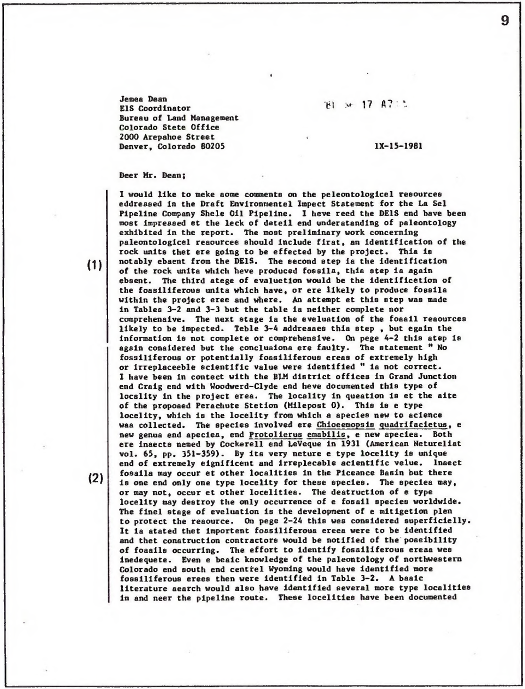
For the above-stated reasons, the Moffat County Landowners' Association asks that the Bureau of Land Management recommend the "No-Action" alternative. Should such a recommendation not be forthcoming, the Landowners ask that the impacts detailed in this comment be more comprehensively addressed in the Impact Statement, and that an alternative be chosen which minimizes such impacts.

Respectfully Submitted,

KOURLIS, THORNBERRY AND YOUNG
Rebecca Love Kourlis

(3) A general protective stipulation would be developed for the right-of-way grant to cover this issue. Beyond this general stipulation, the issue seems to be best solved in negotiations with the applicant.

(4) The issue of condemnation was addressed during scoping. The applicant represents a company who has made a long-term investment in Western Colorado. The power to condemn would be resorted to only after all other remedies had been sincerely tried. This is a requirement of Colorado and Wyoming State laws. Litigation is expensive for all parties. Every reasonable measure to avoid adverse effects to ranching operations would be made by the applicant.



9

'81 17 A7

James Dean
EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

IX-15-1981

Dear Mr. Dean;

I would like to make some comments on the paleontological resources
addressed in the Draft Environmental Impact Statement for the La Sal
Pipeline Company Shale Oil Pipeline. I have read the DEIS and have been
most impressed at the lack of detail and understanding of paleontology
exhibited in the report. The most preliminary work concerning
paleontological resources should include first, an identification of the
rock units that are going to be affected by the project. This is
(1) notably absent from the DEIS. The second step is the identification
of the rock units which have produced fossils, this step is again
absent. The third stage of evaluation would be the identification of
the fossiliferous units which have, or are likely to produce fossils
within the project area and where. An attempt at this step was made
in Tables 3-2 and 3-3 but the table is neither complete nor
comprehensive. The next stage is the evaluation of the fossil resources
likely to be impacted. Table 3-4 addresses this step , but again the
information is not complete or comprehensive. On page 4-2 this step is
again considered but the conclusions are faulty. The statement " No
fossiliferous or potentially fossiliferous areas of extremely high
or irreplaceable scientific value were identified " is not correct.
I have been in contact with the BLM district offices in Grand Junction
and Craig and with Woodward-Clyde and have documented this type of
locality in the project area. The locality in question is at the site
of the proposed Parachute Station (Milepost 0). This is a type
locality, which is the locality from which a species new to science
was collected. The species involved are Chioaemopsis quadrifaciatus, a
new genus and species, and Protoliarus amabilis, a new species. Both
are insects named by Cockerell and LeVeque in 1931 (American Naturalist
vol. 65, pp. 351-359). By its very nature a type locality is unique
and of extremely significant and irreplacable scientific value. Insect
(2) fossils may occur at other localities in the Piceance Basin but there
is one and only one type locality for these species. The species may,
or may not, occur at other localities. The destruction of a type
locality may destroy the only occurrence of a fossil species worldwide.
The final stage of evaluation is the development of a mitigation plan
to protect the resource. On page 2-24 this was considered superficially.
It is stated that important fossiliferous areas were to be identified
and that construction contractors would be notified of the possibility
of fossils occurring. The effort to identify fossiliferous areas was
inadequate. Even a basic knowledge of the paleontology of northwestern
Colorado and south and central Wyoming would have identified more
fossiliferous areas than were identified in Table 3-2. A basic
literature search would also have identified several more type localities
in and near the pipeline route. These localities have been documented

(1) See the response to letter 3, comment 1. The four-step identification procedure you suggest was used to identify areas having a high potential for containing fossils of scientific significance. These procedures are documented in the Paleontology Background Documentation Report and the EIS files for paleontological studies.

(2) The BLM District and Area geologists involved in the analysis and discussions are in agreement that the type localities described for the tertiary insect fossils are extremely important for the integrity of literature and scientific values. The fossils are widespread in the affected geologic strata; therefore, as there will be no effects to type localities, the impacts would not be significant.

The location you cite (milepost 0) as being a type-locality for Chioaemopsis quadrifaciatus and Protoliarus amabilis is subject to uncertainty based on another review of available literature subsequent to your comment. Research at the U.C.Berkeley Entomology, Life Sciences, and Earth Sciences libraries failed to produce the Henderson and Byram paper. Reference sources checked included the Bibliography of North American Geology, Zoological Record, Special Papers Collection and Science Citation Index.

The reference you cite (Cockerell pp. 355-356) is to station 16 on Parachute Creek from Henderson and Byram, 1923. In your letter to BLM Grand Junction District Office (April 19, 1981, to Elizabeth McReynolds) you quoted the location (based on Henderson's original field notes) as being on a "high bluff at south point of divide between the Middle and West forks of the (Parachute) Creek." As stated, the information you previously provided is not sufficiently precise to indicate a coincidence of the type-locality with milepost 0. However, the text has been changed (see DEIS pp. 3-3 and 3-5) to reflect your concern, despite these uncertainties. Should you have it, please forward more specific information to the BLM Craig District Office.

(2) in the scientific literature and the failure to locate the publications indicates an incomplete job by the contracting company.

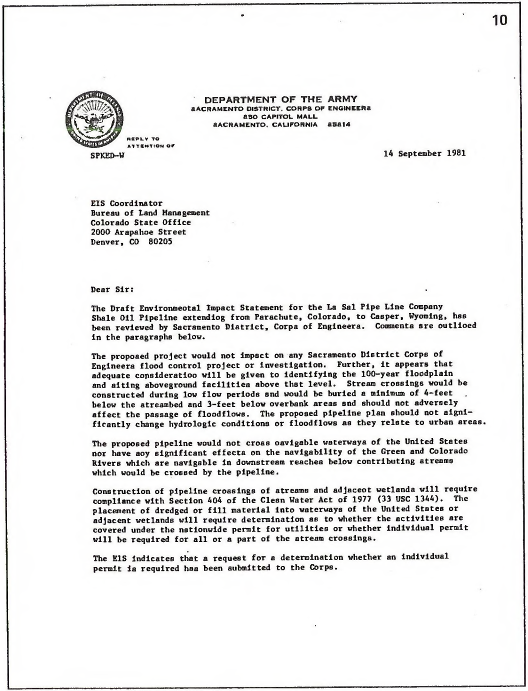
I would urge the BLM to 1) conduct, or contract for, a complete literature search for the project as it relates to paleontology; 2) have the fossil resources and potential assessed by a qualified paleontologist, perhaps involving both a vertebrate and invertebrate paleontologist; 3) develop (3) a mitigation plan to protect, at the very least, type localities, and hopefully those fossil localities on the pipeline route which have produced significant and/or diverse fossil materials. I would consider the BLM remiss in its duties if no further effort were made to identify and evaluate the fossil resources which may be affected by this project.

If you have any questions or desire further documentation of the paleontological resources in the project area please do not hesitate to contact me.

Sincerely,

Allen J. Kihm
Campus Box 218
University of Colorado
Boulder, Colorado 80309

(3) Refer to the response to letter 9, comment 2, paragraph 1.



10

DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
650 CAPITOL MALL
SACRAMENTO, CALIFORNIA 95814

REPLY TO
ATTENTION OF
SPKED-W

14 September 1981

EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, CO 80205

Dear Sir:

The Draft Environmental Impact Statement for the La Sal Pipe Line Company Shale Oil Pipeline extending from Parachute, Colorado, to Casper, Wyoming, has been reviewed by Sacramento District, Corps of Engineers. Comments are outlined in the paragraphs below.

The proposed project would not impact on any Sacramento District Corps of Engineers flood control project or investigation. Further, it appears that adequate consideration will be given to identifying the 100-year floodplain and siting aboveground facilities above that level. Stream crossings would be constructed during low flow periods and would be buried a minimum of 4-feet below the streambed and 3-feet below overbank areas and should not adversely affect the passage of floodflows. The proposed pipeline plan should not significantly change hydrologic conditions or floodflows as they relate to urban areas.

The proposed pipeline would not cross navigable waterways of the United States nor have any significant effects on the navigability of the Green and Colorado Rivers which are navigable in downstream reaches below contributing streams which would be crossed by the pipeline.

Construction of pipeline crossings of streams and adjacent wetlands will require compliance with Section 404 of the Clean Water Act of 1977 (33 USC 1344). The placement of dredged or fill material into waterways of the United States or adjacent wetlands will require determination as to whether the activities are covered under the nationwide permit for utilities or whether individual permit will be required for all or a part of the stream crossings.

The EIS indicates that a request for a determination whether an individual permit is required has been submitted to the Corps.

10

SPKED-W
EIS Coordinator
14 September 1981

Sacramento District has no comments concerning environmental impacts associated with the project.

Thank you for the opportunity to review the EIS.

Sincerely,

GEORGE C. WEDDELL
Chief, Engineering Division

11

United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 17107
Denver, CO 80217

September 18, 1981

George C. Francis
State Director
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear George:

We have reviewed the draft environmental impact statement (DEIS) on the La Sal Pipe Line Company Shale Oil Pipeline in Colorado from the proposed Parachute Station north to the Colorado-Wyoming state line.

The draft EIS is well prepared and addresses environmental concerns for alternate routes. We recommend the construction of pipeline over other alternatives presented in the draft EIS.

Based on minimum impacts to private land, and prime and important farmlands, we recommend the Southern Rangely Lateral Alternative (AB).

In order to minimize adverse impacts on prime and important farmlands, irrigated lands and irrigation systems, where the pipeline crosses Piceance Creek, White and Yampa Rivers, we want to emphasize the significance of location of above ground facilities to avoid interference with farming operations.

There are considerable areas of steep, highly erosive, unstable soils that are very susceptible to erosion when vegetative cover is removed. Many of these soils are difficult to reclaim in this arid climate. Considerable care will be required during construction to reduce erosion and facilitate reclamation

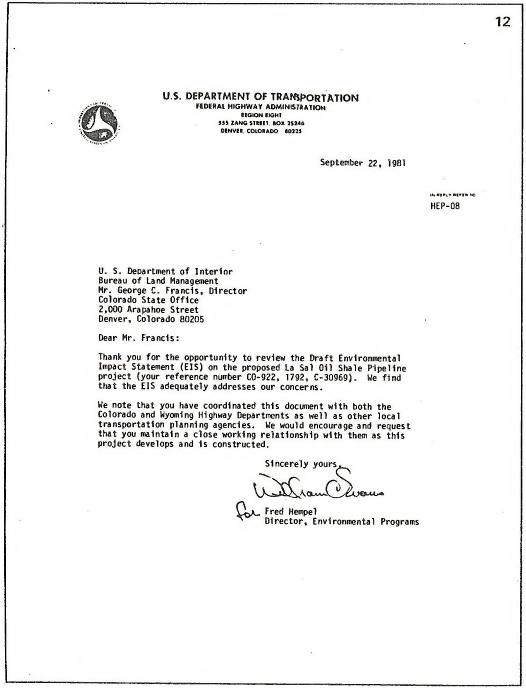
The Soil Conservation Service, through cooperation between landusers and local soil conservation districts, can provide specific onsite technical assistance in reclamation on private lands when requested.

Thank you for the opportunity to review and comment on this DEIS.

Sincerely,

Don Gillaspie (acting)

Sheldon G. Boone
State Conservationist



12

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION EIGHT
555 ZANG STREET, BOX 25246
DENVER, COLORADO 80225

September 22, 1981

IN REPLY REFER TO
HEP-08

U. S. Department of Interior
Bureau of Land Management
Mr. George C. Francis, Director
Colorado State Office
2,000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Francis:

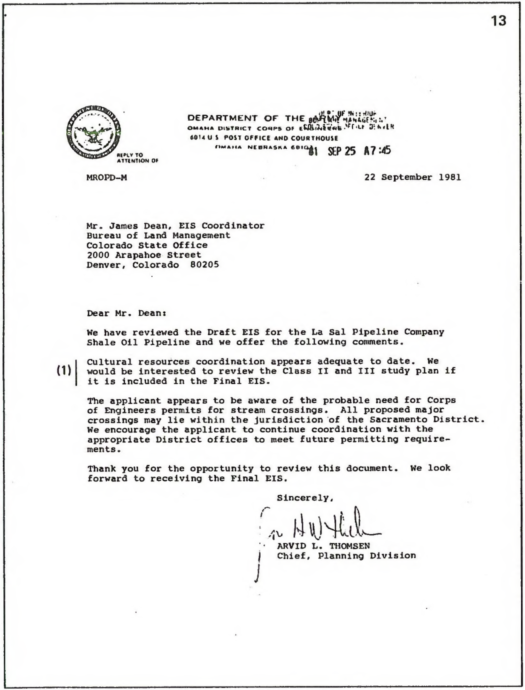
Thank you for the opportunity to review the Draft Environmental Impact Statement (EIS) on the proposed La Sal Oil Shale Pipeline project (your reference number CO-922, 1792, C-30969). We find that the EIS adequately addresses our concerns.

We note that you have coordinated this document with both the Colorado and Wyoming Highway Departments as well as other local transportation planning agencies. We would encourage and request that you maintain a close working relationship with them as this project develops and is constructed.

Sincerely yours,

William Evans

for Fred Hempel
Director, Environmental Programs



13

DEPARTMENT OF THE ARMY
OMAHA DISTRICT CORPS OF ENGINEERS
6014 U.S. POST OFFICE AND COURTHOUSE
OMAHA NEBRASKA 6810

DEPT. OF INTERIOR
BUREAU OF LAND MANAGEMENT
COLORADO STATE OFFICE DENVER
81 SEP 25 A7:45

REPLY TO
ATTENTION OF

MROPD-M

22 September 1981

Mr. James Dean, EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Dean:

We have reviewed the Draft EIS for the La Sal Pipeline Company Shale Oil Pipeline and we offer the following comments.

(1) Cultural resources coordination appears adequate to date. We would be interested to review the Class II and III study plan if it is included in the Final EIS.

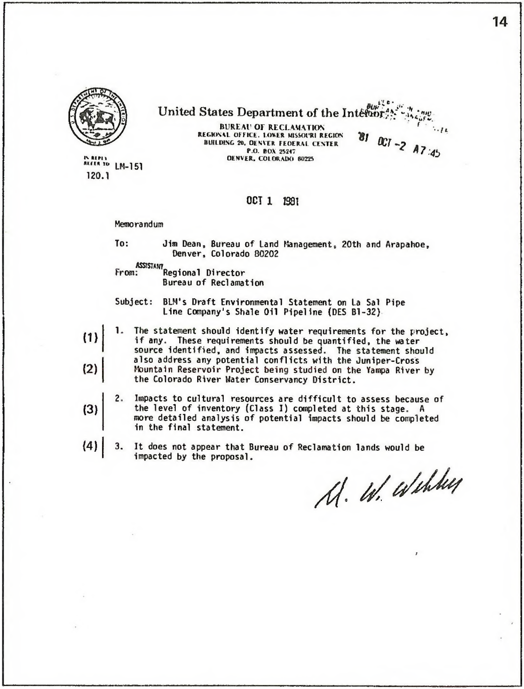
The applicant appears to be aware of the probable need for Corps of Engineers permits for stream crossings. All proposed major crossings may lie within the jurisdiction of the Sacramento District. We encourage the applicant to continue coordination with the appropriate District offices to meet future permitting requirements.

Thank you for the opportunity to review this document. We look forward to receiving the Final EIS.

Sincerely,

ARVID L. THOMSEN
Chief, Planning Division

(1) The cultural resources inventory plan is being prepared for incorporation by stipulation into the right-of-way grant. It will be available for review in the case file. A copy may be made available on request to the Craig (Colorado) District Office or the Rawlins (Wyoming) District Office. See the response to letter 14, comment 3.



14

United States Department of the Interior
BUREAU OF RECLAMATION
REGIONAL OFFICE, LOWER MISSOURI REGION
BUILDING 20, DENVER FEDERAL CENTER
P.O. BOX 25247
DENVER, COLORADO 80225

'81 OCT -2 A7:45

IN REPLY REFER TO LM-151
120.1

OCT 1 1981

Memorandum

To: Jim Dean, Bureau of Land Management, 20th and Arapahoe, Denver, Colorado 80202

From: ASSISTANT Regional Director
Bureau of Reclamation

Subject: BLM's Draft Environmental Statement on La Sal Pipe Line Company's Shale Oil Pipeline (DES 81-32)

(1) (2) 1. The statement should identify water requirements for the project, if any. These requirements should be quantified, the water source identified, and impacts assessed. The statement should also address any potential conflicts with the Juniper-Cross Mountain Reservoir Project being studied on the Yampa River by the Colorado River Water Conservancy District.

(3) 2. Impacts to cultural resources are difficult to assess because of the level of inventory (Class I) completed at this stage. A more detailed analysis of potential impacts should be completed in the final statement.

(4) 3. It does not appear that Bureau of Reclamation lands would be impacted by the proposal.

(1) The DEIS, p. 2-17 identifies the only known water requirement for the project.

(2) The assessment explored potential conflicts with the proposed Juniper-Cross Mountain Reservoir project. No conflicts with the proposal were found. This finding is documented in the EIS files.

(3) An inventory plan for locating and evaluating the significance of cultural resources will be developed by the BLM. This plan for inventory and requirements for avoiding impacts to significant cultural resources will be incorporated by stipulation into the right-of-way grant. Criteria for significance of affected cultural resources is eligibility for inclusion on the National Register under provisions of 36 CFR Part 800. The primary means of cultural resource protection is avoidance. If a site could not be avoided by rerouting the pipeline, the appropriate State Historic Preservation Officer would be consulted per requirements of 36 CFR Part 800. The inventory plan and any plans for mitigation of impacts to National Register eligible resources will be submitted to both SHPOs for review and comment prior to construction.

(4) The crossing of Pathfinder Reservoir at the Sweetwater River (WY) does involve lands under Bureau of Reclamation jurisdiction. No conflicts with this land status were identified in the assessment.

15

COLORADO
HISTORICAL
SOCIETY

The Colorado Heritage Center 1300 Broadway Denver, Colorado 80203

U.S. DEPT. OF INTERIOR
BUR LAND MANAGEMENT
COLO STATE OFFICE DEN. CO
'81 OCT -5 A7:45

August 25, 1981

George C. Francis
State Director
Bureau of Land Management
2020 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Francis,

This is to acknowledge receipt of the draft environmental impact statement for the La Sal Oil Shale Pipeline project.

DATE RECEIVED August 1[illegible], 1981 DATE DUE October 1, 1981

The federal agency has outlined certain provisions in this document for cultural resources management to comply with Executive Order 11593 and the National Historic Preservation Act as amended.

Once these conditions have been adhered to, in consultation with this office, in accordance with 36 CFR 800, compliance will be achieved.

Thank you for the opportunity to comment on the proposed project.

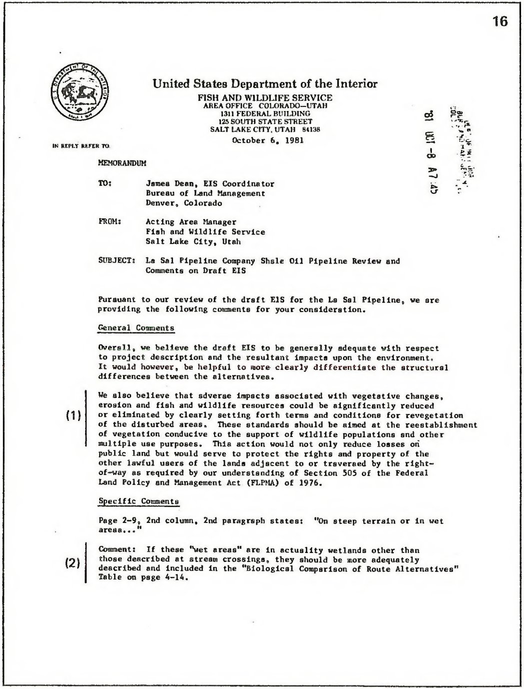
If this office can be of further assistance, please do not hesitate to call upon the Compliance Section at 839-3391.

Sincerely,

for

Arthur C. Townsend
State Historic Preservation Officer

Compliance
Form No. 518



16

United States Department of the Interior
FISH AND WILDLIFE SERVICE
AREA OFFICE COLORADO—UTAH
1311 FEDERAL BUILDING
125 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84138

October 6, 1981

'81 OCT -8 A7:45

IN REPLY REFER TO:

MEMORANDUM

TO: James Dean, EIS Coordinator
Bureau of Land Management
Denver, Colorado

FROM: Acting Area Manager
Fish and Wildlife Service
Salt Lake City, Utah

SUBJECT: La Sal Pipeline Company Shale Oil Pipeline Review and Comments on Draft EIS

Pursuant to our review of the draft EIS for the La Sal Pipeline, we are providing the following comments for your consideration.

General Comments

Overall, we believe the draft EIS to be generally adequate with respect to project description and the resultant impacts upon the environment. It would however, be helpful to more clearly differentiate the structural differences between the alternatives.

(1) We also believe that adverse impacts associated with vegetative changes, erosion and fish and wildlife resources could be significantly reduced or eliminated by clearly setting forth terms and conditions for revegetation of the disturbed areas. These standards should be aimed at the reestablishment of vegetation conducive to the support of wildlife populations and other multiple use purposes. This action would not only reduce losses on public land but would serve to protect the rights and property of the other lawful users of the lands adjacent to or traversed by the right-of-way as required by our understanding of Section 505 of the Federal Land Policy and Management Act (FLPMA) of 1976.

Specific Comments

Page 2-9, 2nd column, 2nd paragraph states: "On steep terrain or in wet areas..."

(2) Comment: If these "wet areas" are in actuality wetlands other than those described at stream crossings, they should be more adequately described and included in the "Biological Comparison of Route Alternatives" Table on page 4-14.

(1) The BLM would include in its right-of-way grant a stipulation requiring rehabilitation and reseeding of a successful stand of vegetation with productivity equal to or greater than that of the undisturbed right-of-way.

(2) The text has been changed on DEIS p. 2-9 tc reflect that these areas are not wetlands.

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James Dean, EIS Coordinator, BLM, Colorado
Page 2

Page 2-6 states: "Preparation of seedbed and reseeding where applicable would be accomplished by the applicant, and the seed mix or plant species would be planted in accordance with techniques customarily used for the area and in accordance with agreements made with SMAs or owners of private property."

(3) Comment: Actual impacts to the environment could be more accurately stated and adjacent land owners rights more fully protect, if the BLM would describe the terms and conditions to be required for revegetation consistent with Section 503 of FLPMA (see general comments). This should include the actual seeding mix and the plant species to be reestablished consistent with those vegetative types to be lost.

(4) Page 2-19 Comment: Several of the dates to avoid construction do not provide time frames consistent with protecting nesting and/or reproduction success for the species. We would recommend the following changes be made for each species.

	Change	To
Ferruginous Hawk nesting area	March 15	July 15*
Golden Eagle Nest	February	July 15*
Prairie Falcon Nest	April	June

*Some activities may be allowable during the June 1 - July 15 period. Such exception may be granted by BLM upon a site specific analysis of nesting stages and the proximity of the proposed activities.

Based upon the scale of the maps in the EIS, we are unable to fully analyze impacts to Bald Eagles in the area of milepost 1090-111.0. We have requested a larger scale map showing the proposed alignment in this area and will provide comments based upon this review as soon as possible.

Page 2-26, 2nd column, 2nd paragraph states: "Emergency booms and skimmers could be employed as appropriate on any streams that are endangered by the spill."

(5) Comment: Would this equipment be stored on site and immediately available in the event of a major spill?

Table 2-13, page 2-40 indicated that the Credible Maximum Spill at the White River and Tampa River are calculated to be 2,320 barrels (97,440 gallons) and 3,040 barrels (127,680 gallons) respectfully.

Our concern for the survival of threatened and/or endangered fish species in these drainages is one of immediate action if a major spill should ever occur.

Page 2-32 Comment: Dates during which construction would be avoided should be changed to conform with our comments on page 2-19.

(3) See the response to letter 16, comment 1.

(4) After further study by BLM biologists of these suggested changes it was decided that these dates are sufficiently conservative in light of the site specific proviso that the Area Manager may change them if warranted. See the DEIS, p. 2-19.

(5) Emergency booms and skimmers would not be stored at any location along the pipeline route. Time of response was considered in the analysis. See the Oil Spill Background Documentation Report.

16

James Dean, EIS Coordinator, BLM, Colorado
Page 3

Page 3-6 Table 3-5 Comment: Streams in Colorado have been jointly evaluated by the Colorado Division of Wildlife, U.S. Fish and Wildlife Service and the Environmental Protection Agency in a publication entitled, "1979 Stream and Lake Evaluation Map - State of Colorado".

(6) Areas immediately adjacent to the proposed pipeline crossings on both the White and Yampa River drainages in Colorado were rated as Value Class I, due in large part to the occurrence of State or Federal endangered species. Attached for your use is a copy of this publication.

Page 3-8 Comment: The comments on Table 3-5 (above) "Stream Classification in Colorado" are applicable in Table 3-6 as well.

Page 4-4, Table 4-2, Comment: We are pleased to note that the riparian acreages to be disturbed are significantly reduced by the adoption of the Yampa Alternative (3 acres) vs. the Yampa Proposed (115 acres).

Summary

The resource concerns expressed herein center around three major items:

1. Stipulated conditions for revegation of disturbed areas.
2. Protection of sensitive wildlife areas during critical time periods.
3. Assurance of emergency procedures and equipment at major stream crossings to provide immediate response in the event of a major spill.

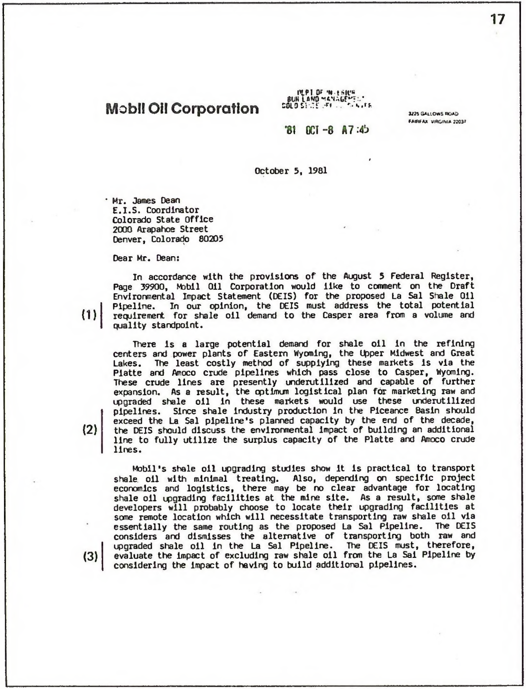
Hopefully, these concerns can be clarified and/or dispelled in the Final EIS.

Thank you for the opportunity to review and comment on the draft EIS. If we can clarify any comments, or provide any additional information, please feel free to call.

Attachment

cc: Division of Wildlife, CO
Grand Junction Field Office
Fish & Wildlife Service, Cheyenne, WY
CFO, CO
OEC, Washington

(6) The classifications presented in Tables 3-5 and 3-6 of the DEIS have been modified to include the Colorado Fish and Wildlife Department classification. See DEIS pp. 3-6 and 3-8.



17

Mobil Oil Corporation

3225 GALLOWS ROAD
FAIRFAX VIRGINIA 22037

DEPT OF INTERIOR
BUR LAND MANAGEMENT
COLO STATE OFFICE CENTER

'81 OCT -8 A7:45

October 5, 1981

Mr. James Dean
E.I.S. Coordinator
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Dean:

In accordance with the provisions of the August 5 Federal Register, Page 39900, Mobil Oil Corporation would like to comment on the Draft Environmental Impact Statement (DEIS) for the proposed La Sal Shale Oil Pipeline. (1) In our opinion, the DEIS must address the total potential requirement for shale oil demand to the Casper area from a volume and quality standpoint.

There is a large potential demand for shale oil in the refining centers and power plants of Eastern Wyoming, the Upper Midwest and Great Lakes. The least costly method of supplying these markets is via the Platte and Amoco crude pipelines which pass close to Casper, Wyoming. These crude lines are presently underutilized and capable of further expansion. As a result, the optimum logistical plan for marketing raw and upgraded shale oil in these markets would use these underutilized pipelines. (2) Since shale industry production in the Piceance Basin should exceed the La Sal pipeline's planned capacity by the end of the decade, the DEIS should discuss the environmental impact of building an additional line to fully utilize the surplus capacity of the Platte and Amoco crude lines.

Mobil's shale oil upgrading studies show it is practical to transport shale oil with minimal treating. Also, depending on specific project economics and logistics, there may be no clear advantage for locating shale oil upgrading facilities at the mine site. As a result, some shale developers will probably choose to locate their upgrading facilities at some remote location which will necessitate transporting raw shale oil via essentially the same routing as the proposed La Sal Pipeline. The DEIS considers and dismisses the alternative of transporting both raw and upgraded shale oil in the La Sal Pipeline. (3) The DEIS must, therefore, evaluate the impact of excluding raw shale oil from the La Sal Pipeline by considering the impact of having to build additional pipelines.

(1) The issues of quantity and quality of shale oil to be shipped to Casper from all sources were discussed at all scoping meetings. Every reasonable effort to identify potential users of the proposed pipeline was made by the BLM and the applicant. It was in the interest of the BLM to identify potential shippers to eliminate the necessity for multiple rights-of-way. No additional shippers identified themselves, although considerable opportunity for them to do so was provided by the BLM through media announcements and a thorough scoping process. Since there are no additional shippers identified at this time, discussion beyond the scope of the maximum amount of upgraded shale oil transportable by the pipeline would be speculative.

The quality of the upgraded shale oil to be shipped by the La Sal Pipeline would be equal to light crude oil. It would be free of heavy metals. Any shipper who wished to use the common-carrier crude oil pipeline would have to ship product compatible with the pipeline system. Raw shale oil contains a significant fraction of heavy metals, especially arsenic. Compatible product would have to be upgraded to the extent of removing heavy metals.

(2) See the responses to letter 17, comment 1, and letter 7, comment 1.

(3) Additional pipelines built to carry product that would not be compatible with the proposed pipeline are beyond the scope of this analysis. The EIS does not consider the programmatic impacts of transporting synthetic crude oil from Western Colorado to possible demand centers. Instead, it focuses on the impacts of a specific application of identified maximum capacity. The issues of pipeline size, compatible product, destination of product, and other potential shippers were repeatedly expressed by the BLM during scoping for this EIS. The scope of the EIS represents the limits to the analysis based on scoping, which did not indicate a need to analyze inclusion of other means of transporting shale oil, other than the proposed action.

17

Many factors affect the economics of siting shale oil upgrading facilities. Among them are: logistics, construction costs, and synergism with existing facilities. Reasons for remote location of upgrading facilities, i.e., at sites distant from the mine, include:

- Limited on-site processing could sufficiently modify raw shale oil properties to allow use of batching techniques in pipelines. Raw shale oil modified in this way would be hydraulically similiar to heavy Wyoming sour crudes which are currently pipelined from Casper to the Great Lakes.
- Mobil's cost estimates show it would cost much more to build an upgrader in the Piceance Basin than at many U. S. refining centers. This may or may not be offset by logistics and other considerations, depending on each developer's individual situation.
- Many refineries have surplus hydrogen and/or underutilized process facilities which could be used for upgrading the raw shale oil thus avoiding the construction of similar facilities at the mine site.

(4) It is our opinion that the need for additional pipeline capacity from the Piceance Basin to Casper (or other locations) should thus be included in DEIS. Furthermore, since the optimum shale oil upgrading site will differ for each developer, the capability to transport raw shale oil is also required and should be included in the DEIS.

Yours truly,

T. D. Cole

T. D. Cole
Manager, Supply Planning

(4) See the responses to letter 7, comment 1, and letter 17, comment 1.

18

DEPT. OF INTERIOR
BUR LAND MANAGEMENT

WYOMING
EXECUTIVE DEPARTMENT
CHEYENNE

ED HERSCHLER
GOVERNOR

October 8, 1981

Mr. James Dean, EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, CO 80205

Dear Mr. Dean:

The draft environmental impact statement for the La Sal Pipeline Company's shale oil pipeline has been circulated for review by our state agencies. Copies of their comments are enclosed for your consideration and use.

I call your attention to comments provided by our Water Development Commission, Game and Fish Department, and State Engineer's Office regarding the need to fully protect Wyoming's water resources from adverse impacts due to pipeline stream crossings and oil spills. The project sponsors and Bureau of Land Management must work closely with our pertinent state agencies to minimize these concerns. Such cooperation is also necessary in the rights of way negotiations with private landowners. These negotiations should be conducted in an unpressured, willing buyer/willing seller manner. Further, impacts on agricultural lands, ranching operations, wildlife habitat and recreation areas must be kept to a minimum through proper construction, monitoring and reclamation practices.

Thank you for the opportunity to review this document. Please keep me informed of the progress in this effort.

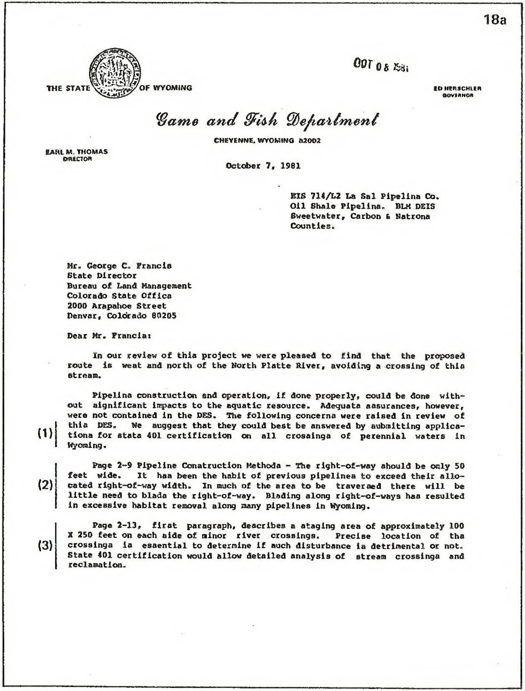
Sincerely,

Dick Hartman

Dick Hartman,
State Planning Coordinator

DH:pcl

Enlosures



18a

OCT 08 1981

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Game and Fish Department

CHEYENNE, WYOMING 82002

EARL M. THOMAS
DIRECTOR

October 7, 1981

EIS 714/L2 La Sal Pipeline Co.
Oil Shale Pipeline. BLM DEIS
Sweetwater, Carbon & Natrona
Counties.

Mr. George C. Francis
State Director
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Francis:

In our review of this project we were pleased to find that the proposed route is west and north of the North Platte River, avoiding a crossing of this stream.

Pipeline construction and operation, if done properly, could be done without significant impacts to the aquatic resource. Adequate assurances, however, were not contained in the DES. The following concerns were raised in review of this DES. (1) We suggest that they could best be answered by submitting applications for state 401 certification on all crossings of perennial waters in Wyoming.

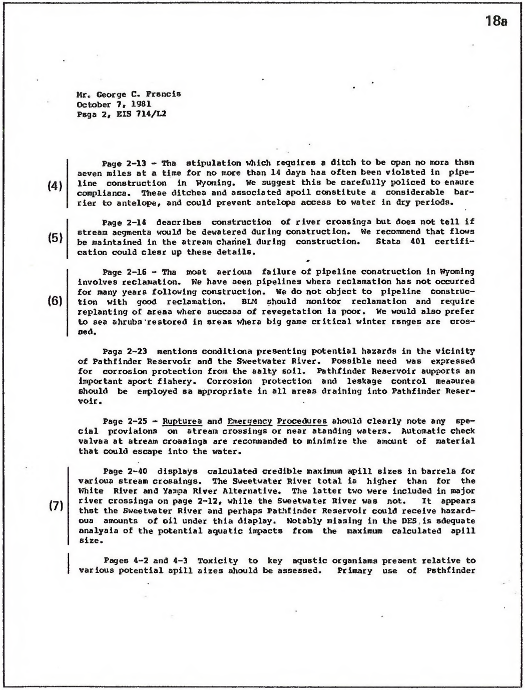
(2) Page 2-9 Pipeline Construction Methods - The right-of-way should be only 50 feet wide. It has been the habit of previous pipelines to exceed their allocated right-of-way width. In much of the area to be traversed there will be little need to blade the right-of-way. Blading along right-of-ways has resulted in excessive habitat removal along many pipelines in Wyoming.

(3) Page 2-13, first paragraph, describes a staging area of approximately 100 X 250 feet on each side of minor river crossings. Precise location of the crossings is essential to determine if such disturbance is detrimental or not. State 401 certification would allow detailed analysis of stream crossings and reclamation.

(1) In accordance with the DEIS section, Authorizing Actions, the applicant is responsible for obtaining necessary state permits. The comment has been forwarded to La Sal Pipe Line Company.

(2) The regulations pertaining to the construction of crude oil pipelines (43 CFR, Part 2880) require that any activity outside the 50 foot nominal width of the right-of-way be covered by a temporary use permit from the BLM. A stipulation in the right-of-way grant would require the applicant to do minimum blading of vegetation consistent with that required for construction. Additional stipulations affecting productivity would cover revegetation (see the response to letter 16, comment 1).

(3) See the response to letter 18a, comment 2.



18a

Mr. George C. Francis
October 7, 1981
Page 2, EIS 714/L2

(4) Page 2-13 - The stipulation which requires a ditch to be open no more than seven miles at a time for no more than 14 days has often been violated in pipeline construction in Wyoming. We suggest this be carefully policed to ensure compliance. These ditches and associated spoil constitute a considerable barrier to antelope, and could prevent antelope access to water in dry periods.

(5) Page 2-14 describes construction of river crossings but does not tell if stream segments would be dewatered during construction. We recommend that flows be maintained in the stream channel during construction. State 401 certification could clear up these details.

(6) Page 2-16 - The most serious failure of pipeline construction in Wyoming involves reclamation. We have seen pipelines where reclamation has not occurred for many years following construction. We do not object to pipeline construction with good reclamation. BLM should monitor reclamation and require replanting of areas where success of revegetation is poor. We would also prefer to see shrubs restored in areas where big game critical winter ranges are crossed.

Page 2-23 mentions conditions presenting potential hazards in the vicinity of Pathfinder Reservoir and the Sweetwater River. Possible need was expressed for corrosion protection from the salty soil. Pathfinder Reservoir supports an important sport fishery. Corrosion protection and leakage control measures should be employed as appropriate in all areas draining into Pathfinder Reservoir.

Page 2-25 - Ruptures and Emergency Procedures should clearly note any special provisions on stream crossings or near standing waters. Automatic check valves at stream crossings are recommended to minimize the amount of material that could escape into the water.

(7) Page 2-40 displays calculated credible maximum spill sizes in barrels for various stream crossings. The Sweetwater River total is higher than for the White River and Yampa River Alternative. The latter two were included in major river crossings on page 2-12, while the Sweetwater River was not. It appears that the Sweetwater River and perhaps Pathfinder Reservoir could receive hazardous amounts of oil under this display. Notably missing in the DES is adequate analysis of the potential aquatic impacts from the maximum calculated spill size.

Pages 4-2 and 4-3 Toxicity to key aquatic organisms present relative to various potential spill sizes should be assessed. Primary use of Pathfinder

(4) Temporary access across the open ditch would be provided for livestock and wildlife use. Monitoring of the construction would be done by BLM surface protection personnel.

(5) There would be no blockage resulting in dewatering of streams at crossing points.

(6) See the response to letter 16, comment 1.

(7) A background report was prepared for the analysis of effects of oil spills on water; analysis of the scoping process indicated this issue was of concern to a number of agencies and individuals. The report analyzed the effects to perennial streams and reservoirs using examples. The results are summarized in the DEIS. The effects of a spill in the Sweetwater River for that short stretch of river upstream from Pathfinder Reservoir would be similar to that described in the background report for the White or Yampa Rivers. The example used in the background report for impacts to a major reservoir was Pathfinder Reservoir.

18a

Mr. George C. Francis
October 7, 1981
Page 3, EIS 714/L2

(8) Reservoir is listed as irrigation. Fishing use of this reservoir was not adequately portrayed. In 1979, an estimated 75,000 to over 100,000 fishermen days were spent on Pathfinder. Major species sought include walleye, rainbow trout, brown trout, and cutthroat trout. Assessment of potential impacts on the aquatic resources in Wyoming was inadequate.

(9) Page B-9 describes how significance of aquatic habitats was determined. Reference is made to percentage of crucial habitat for a species within the regional area. Criteria were vague (what is the regional area?) and arbitrary. We feel that state wildlife agencies responsible for management of the fish and wildlife resource should determine the importance of habitats affected. Impacts should be displayed on this basis.

Please contact this office if we may be of further help on this project.

Sincerely,

W. Donald Dexter

W. DONALD DEXTER,
ASSISTANT DIRECTOR, OPERATIONS
WYOMING GAME AND FISH DEPARTMENT

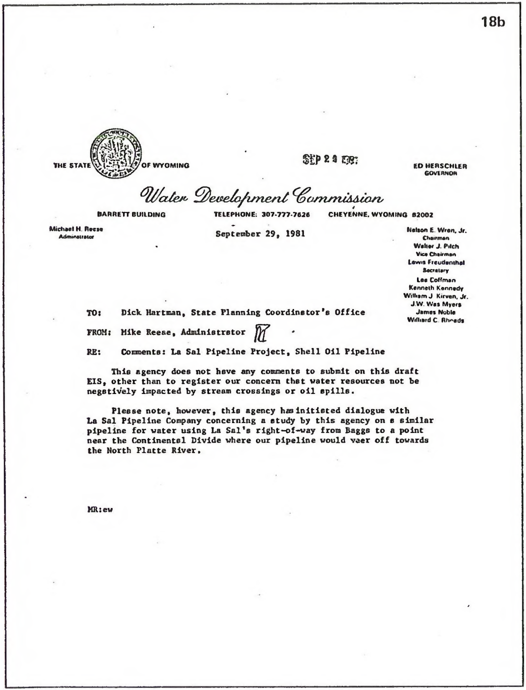
WDD:HBM:mlr

cc: State Planning Coordinator
Game Division
Fish Division

---

(8) Toxicity to aquatic organisms, including fishes, is discussed in the Oil Spill Analysis Background Documentation Report. An adequate analysis of toxicity effects exists in this report. It is incorporated into the text of the EIS by reference. Copies of the background reports continue to be available at the address listed in the cover sheet.

(9) Text modifications have been made to clarify the criteria of significance used in the analysis of effects to the aquatic environment. Refer to DEIS, p. B-9.



18b

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Water Development Commission

BARRETT BUILDING TELEPHONE: 307-777-7626 CHEYENNE, WYOMING 82002

Michael H. Reese
Administrator

SEP 24 1981

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Vice Chairman
Lewis Freudenthal
Secretary
Lee Coffman
Kenneth Kennedy
William J. Kirven, Jr.
J.W. Wes Myers
James Noble
Willard C. Rhoads

September 29, 1981

TO: Dick Hartman, State Planning Coordinator's Office

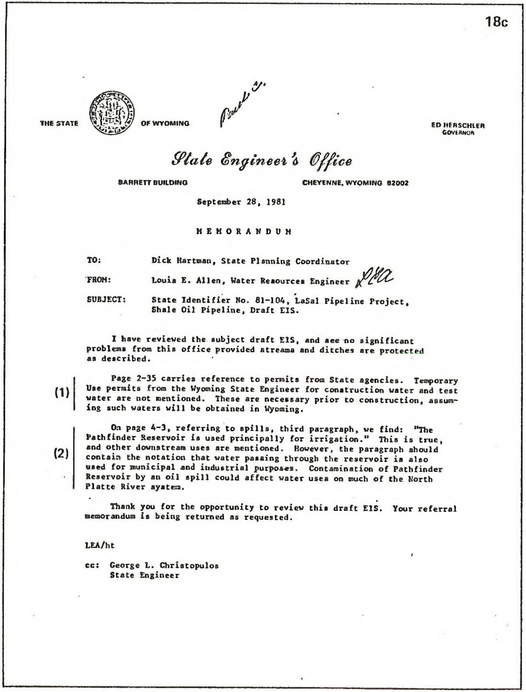
FROM: Mike Reese, Administrator

RE: Comments: La Sal Pipeline Project, Shell Oil Pipeline

This agency does not have any comments to submit on this draft EIS, other than to register our concern that water resources not be negatively impacted by stream crossings or oil spills.

Please note, however, this agency has initiated dialogue with La Sal Pipeline Company concerning a study by this agency on a similar pipeline for water using La Sal's right-of-way from Baggs to a point near the Continental Divide where our pipeline would veer off towards the North Platte River.

MR:ew



18c

THE STATE OF WYOMING

Paul y.

ED HERSCHLER
GOVERNOR

State Engineer's Office

BARRETT BUILDING CHEYENNE, WYOMING 82002

September 28, 1981

MEMORANDUM

TO: Dick Hartman, State Planning Coordinator

FROM: Louis E. Allen, Water Resources Engineer LEA

SUBJECT: State Identifier No. 81-104, LaSal Pipeline Project, Shale Oil Pipeline, Draft EIS.

I have reviewed the subject draft EIS, and see no significant problems from this office provided streams and ditches are protected as described.

(1) Page 2-35 carries reference to permits from State agencies. Temporary Use permits from the Wyoming State Engineer for construction water and test water are not mentioned. These are necessary prior to construction, assuming such waters will be obtained in Wyoming.

(2) On page 4-3, referring to spills, third paragraph, we find: "The Pathfinder Reservoir is used principally for irrigation." This is true, and other downstream uses are mentioned. However, the paragraph should contain the notation that water passing through the reservoir is also used for municipal and industrial purposes. Contamination of Pathfinder Reservoir by an oil spill could affect water uses on much of the North Platte River system.

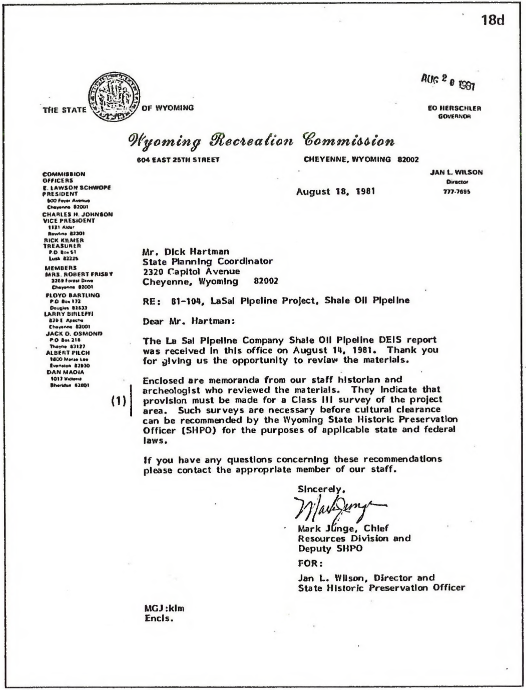
Thank you for the opportunity to review this draft EIS. Your referral memorandum is being returned as requested.

LEA/ht

cc: George L. Christopulos
State Engineer

(1) See the response to letter 18a, comment 1.

(2) The uses identified downstream of the Pathfinder Reservoir, as presented in the DEIS, were taken from the existing beneficial use classifications immediately downstream. Following a potential spill into the Sweetwater River upstream of the Pathfinder Reservoir, the water soluble component of the oil could reach the Pathfinder Reservoir, as discussed on DEIS, p. 4-2 and pp. 11 and 14 of the Oil Spill Analysis Background Documentation Report. While greatly reduced in concentration by dilution, evaporation, and spill cleanup, these water soluble components, principally aromatic compounds such as phenols, could also reach municipal or industrial uses far downstream of Pathfinder Reservoir, although the likelihood of such an occurrence is remote (see DEIS p. 2-37).



18d

AUG 2 0 1981

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Wyoming Recreation Commission

604 EAST 25TH STREET CHEYENNE, WYOMING 82002

JAN L. WILSON
Director
777-7695

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1800 Morse Lee
Evanston 82930
DAN MADIA
1017 Victoria
Sheridan 82801

August 18, 1981

Mr. Dick Hartman
State Planning Coordinator
2320 Capitol Avenue
Cheyenne, Wyoming 82002

RE: 81-104, LaSal Pipeline Project, Shale Oil Pipeline

Dear Mr. Hartman:

The La Sal Pipeline Company Shale Oil Pipeline DEIS report was received in this office on August 14, 1981. Thank you for giving us the opportunity to review the materials.

(1) Enclosed are memoranda from our staff historian and archeologist who reviewed the materials. They indicate that provision must be made for a Class III survey of the project area. Such surveys are necessary before cultural clearance can be recommended by the Wyoming State Historic Preservation Officer (SHPO) for the purposes of applicable state and federal laws.

If you have any questions concerning these recommendations please contact the appropriate member of our staff.

Sincerely,

Mark Junge

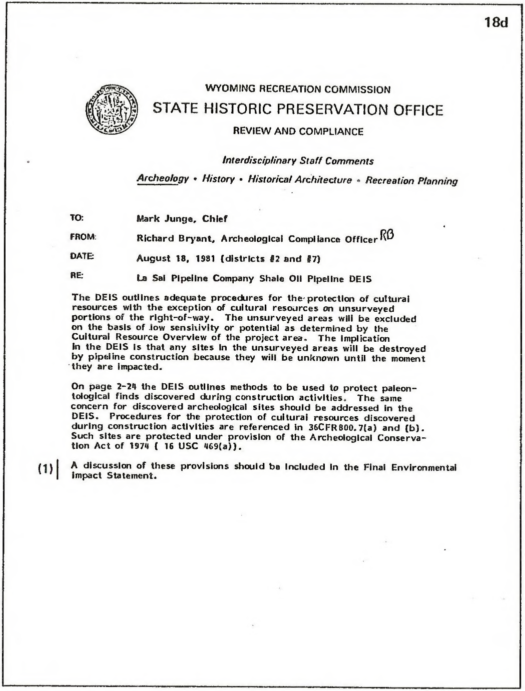
Mark Junge, Chief
Resources Division and
Deputy SHPO

FOR:

Jan L. Wilson, Director and
State Historic Preservation Officer

MGJ:klm
Encls.

(1) See the response to letter 14, comment 3.



18d

WYOMING RECREATION COMMISSION

STATE HISTORIC PRESERVATION OFFICE

REVIEW AND COMPLIANCE

Interdisciplinary Staff Comments

Archeology • History • Historical Architecture • Recreation Planning

TO: Mark Junge, Chief

FROM: Richard Bryant, Archeological Compliance Officer RB

DATE: August 18, 1981 (districts #2 and #7)

RE: La Sal Pipeline Company Shale Oil Pipeline DEIS

The DEIS outlines adequate procedures for the protection of cultural resources with the exception of cultural resources on unsurveyed portions of the right-of-way. The unsurveyed areas will be excluded on the basis of low sensitivity or potential as determined by the Cultural Resource Overview of the project area. The implication in the DEIS is that any sites in the unsurveyed areas will be destroyed by pipeline construction because they will be unknown until the moment they are impacted.

On page 2-24 the DEIS outlines methods to be used to protect paleontological finds discovered during construction activities. The same concern for discovered archeological sites should be addressed in the DEIS. Procedures for the protection of cultural resources discovered during construction activities are referenced in 36CFR800.7(a) and (b). Such sites are protected under provision of the Archeological Conservation Act of 1974 (16 USC 469(a)).

(1) A discussion of these provisions should be included in the Final Environmental Impact Statement.

(1) Please see the response to letter 14, comment 3 which updates information based on compliance procedures that have now been developed for this project and will be incorporated in the right-of-way grant.

18d

WYOMING RECREATION COMMISSION

STATE HISTORIC PRESERVATION OFFICE

REVIEW AND COMPLIANCE

Interdisciplinary Staff Comments

Archeology • History • Historical Architecture • Recreation Planning

TO: Mark Junge, Chief

FROM: Michael A. Massie, Historical Review and Compliance Officer MAM

DATE: August 18, 1981 (districts #2 and #7)

RE: State Planning Coordinator, 81-104, DEIS of LaSal Pipeline

I concur with Rick Bryant's comments outlined in his memo. In addition, a qualified professional historian must conduct a Class III survey for all historical sites that the pipeline will directly or indirectly impact in Wyoming.

In addition to federal and state lands, the Class III historian should visit the sensitive areas in order to determine if the project will directly or indirectly impact these sites. The historian should also take into account the visual impact casued by the project. If the project will not impact any historic structures or sites associated with these sensitive areas, then the historian needs only to document in one or two paragraphs this finding of no effect. However, if the proposed undertaking in any way (indirectly or directly) affects an historic site in a sensitive area, then the historian must evaluate the site.

The Cherokee, Overland and Oregon Trails are also sensitive historic areas. It is crucial to the preservation of these nationally and regionally significant sites that the project cross these trails and roads in previously impacted areas. The Class III historian should gather the information on the proposed impacts outlined in the final Class I overview and evaluate the integrity of the trail remains in these impacted areas. If the ruts are in an undisturbed state, then the project should be rerouted. The historian should also be aware that the pipeline may cross the Rawlins-White River Road.

Finally, in examining the historic sites that the project will effect, the Class III historian should adhere to the following guidelines. If a site has already been determined eligible or is on the National Register, then another determination of eligibility is obviously no required. In these instances, the historian should provide the required documentation (update the SHPO information, if necessary), the determination of effect, and mitigation measures (if necessary).

In examining sites that require a National Register evaluation, the Class III historian should gather some local information (title search, oral interviews, and some local research, if necessary) and simply cite the appropriate pages in the Class I for the national, regional, state and local analysis of of the site. For example, when evaluating a nineteenth century ranch, the historian should conduct a chain of title searches and interview local informants. Citing pages 132-159 of the Class I, "South Central Wyoming's Range Cattle Industry," is sufficient for the historical overview of the site. The Class III historian should base the assessment of National Register eligibility upon the local information and the citation from the Class I overview. The historian should provide a brief (one or two paragraphs) discussion that justifies his or her conclusion concerning a site's National Register status.

The Wyoming SHPO has accepted Dena Markoff's Class I historical overview. I must review all Class III historical reports before I can recommend historical clearance for the project.

18e

PAW

GARY B. GLASS
DIRECTOR AND
STATE GEOLOGIST

STAFF GEOLOGISTS
JAMES C. CASE
RODNEY H. DE BRUIN
W. DAN HAUSEL
ALAN J. VER PLOEG
TECHNICAL EDITOR
DAVID A. COPELAND

THE GEOLOGICAL SURVEY OF WYOMING
UNIVERSITY OF WYOMING
BOX 3008, UNIVERSITY STATION
LARAMIE, WYOMING 82071

Serving Wyoming Since 1933

TELEPHONES
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BAYARD D. REA, CASPER

September 18, 1981

Mr. Dick Hartman
State Planning Coordinator
Wyoming State Clearinghouse
2320 Capitol Ave.
Cheyenne, Wyoming 82002

Dear Mr. Hartman:

I have reviewed the La Sal Pipeline Project, Shale Oil Pipeline E.I S. (State 1.D. No. 81-104) and have no comments to make.

If your office or another State agency would like us to re-examine any part of this report, please feel free to ask.

Sincerely,

James C. Case

James C. Case
Staff Environmental Geologist

JCC:sa

Geology--Interpreting the past to provide for the future

18f

THE STATE OF WYOMING

Ed Herschler, Governor
Leno Menghini, Superintendent and Chief Engineer

Wyoming State Highway Department

P. O. BOX 1708
CHEYENNE, WYOMING 82001

September 10, 1981

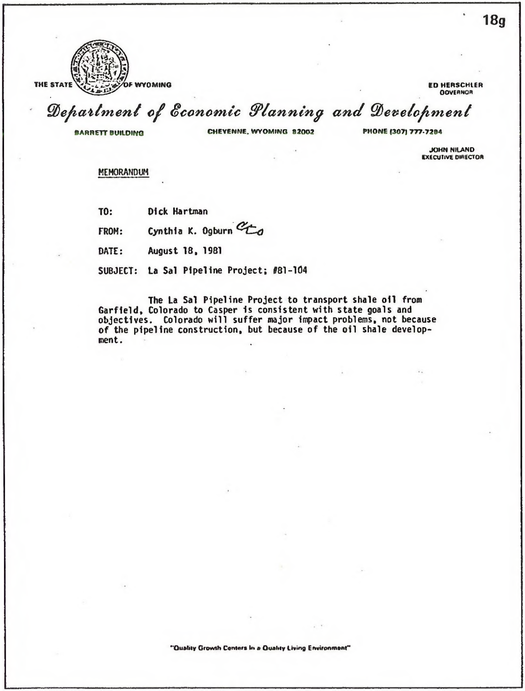
MEMORANDUM

TO: Dick Hartman
State Planning Coordinator

FROM: William P. King, P. E. WPK
Environmental Services Engineer

SUBJECT: Draft Environmental Impact Statement
La Sal Pipeline Project
Shale Oil Pipeline
State Identifier Number 81-104

The above mentioned Draft Environmental Impact Statement for the above project has been reviewed by this office. We find that it adequately addresses the highway issues.



18g

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Economic Planning and Development

BARRETT BUILDING
CHEYENNE, WYOMING 82002
PHONE (307) 777-7284

JOHN NILAND
EXECUTIVE DIRECTOR

MEMORANDUM

TO: Dick Hartman

FROM: Cynthia K. Ogburn

DATE: August 18, 1981

SUBJECT: La Sal Pipeline Project; #81-104

The La Sal Pipeline Project to transport shale oil from Garfield, Colorado to Casper is consistent with state goals and objectives. Colorado will suffer major impact problems, not because of the pipeline construction, but because of the oil shale development.

"Quality Growth Centers in a Quality Living Environment"

18g

THE STATE OF WYOMING
ED HERSCHLER
GOVERNOR

Department of Economic Planning and Development

BARRETT BUILDING
CHEYENNE, WYOMING 82002
JOHN NILAND
EXECUTIVE DIRECTOR

MEMORANDUM

TO: Dick Hartman, State Planning Coordinator

FROM: John T. Goodier

DATE: September 30, 1981

SUBJECT: La Sal Pipeline Project: #81-104

Pipelines have been a common method of transporting liquid petroleum products, crude oil and refined products and natural gas for years.

This project appears to be a natural extension of the existing pipeline systems.

There should not be any unusual problems and most of the construction problems will be temporary in nature.

We concur that this would be a worthwhile project.

Administration 777-7287
Industrial Division 777-7285
Mineral Division 777-7381
Planning Division 777-7286
Water Division 777-7284
Library 777-6430

19

STATE OF COLORADO

Department of Local Affairs

DIVISION OF LOCAL GOVERNMENT
Karen Reinertson, Director

Richard D. Lamm
Governor

October 5, 1981

Mr. George C. Francis
State Director
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

SUBJECT: Draft Environmental Impact Statement
LaSal Shale Oil Pipeline
CO-922 - 1792 - C-30969

Dear Mr. Francis:

The Colorado Clearinghouse has received the above-referenced Draft Environmental Impact Statement and has distributed it to interested state agencies. Comments received from the Department of Highways, Colorado Commissioner on Higher Education and the Colorado Geological Survey are enclosed for your information.

Thank you for the opportunity to review this matter.

Sincerely,

SOEllis
Stephen O. Ellis
Chief Planner

SE/PN/vt
Enclosures

cc: Office of the Governor
Department of Highways
Department of Natural Resources

1313 Sherman Street, Room 523, Denver, Colorado 80203 (303) 866-2156

19a

COLORADO STATE DEPARTMENT OF HIGHWAYS

September 30, 1981

Mr. Stephen O. Ellis
State Clearinghouse
520 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203

Dear Mr. Ellis:

The Colorado Department of Highways has completed its review of the Draft Environmental Impact Statement for the La Sal Oil Shale Pipeline and has the following comments.

It appears that comments made by this Department during the scoping review have been adequately addressed in the Draft EIS. However, since this project will use right of way from several state highways, we again request that planning for this project be closely coordinated with this Department.

Thank you for the opportunity to provide comments on this document, and we look forward to reviewing the Final EIS.

Very truly yours,

Harvey R. Atchison
Director
Division of Transportation Planning

By Barbara L.S. Chocol
Manager
Impact Evaluation Branch

REG/rg

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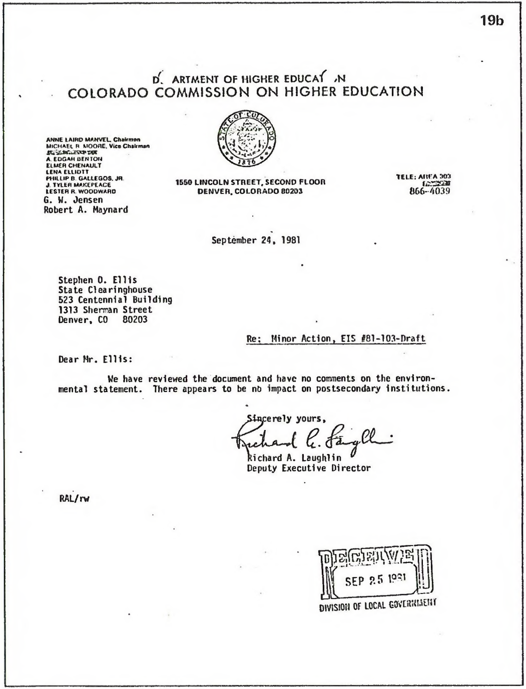
OCT 5 1981
DIVISION OF LOCAL GOVERNMENT

4201 EAST ARKANSAS AVENUE DENVER, CO 80222 (303) 757-9525



19b

DEPARTMENT OF HIGHER EDUCATION
COLORADO COMMISSION ON HIGHER EDUCATION

ANNE LAIRD MANVEL, Chairman
MICHAEL R. MOORE, Vice Chairman
[illegible]
A. EDGAR BENTON
ELMER CHENAULT
LENA ELLIOTT
PHILLIP B. GALLEGOS, JR.
J. TYLER MAKEPEACE
LESTER R. WOODWARD
G. W. Jensen
Robert A. Maynard

1550 LINCOLN STREET, SECOND FLOOR
DENVER, COLORADO 80203

TELE: AREA 303
[illegible]
866-4039

September 24, 1981

Stephen O. Ellis
State Clearinghouse
523 Centennial Building
1313 Sherman Street
Denver, CO 80203

Re: Minor Action, EIS #81-103-Draft

Dear Mr. Ellis:

We have reviewed the document and have no comments on the environmental statement. There appears to be no impact on postsecondary institutions.

Sincerely yours,

Richard A. Laughlin

Richard A. Laughlin
Deputy Executive Director

RAL/rw

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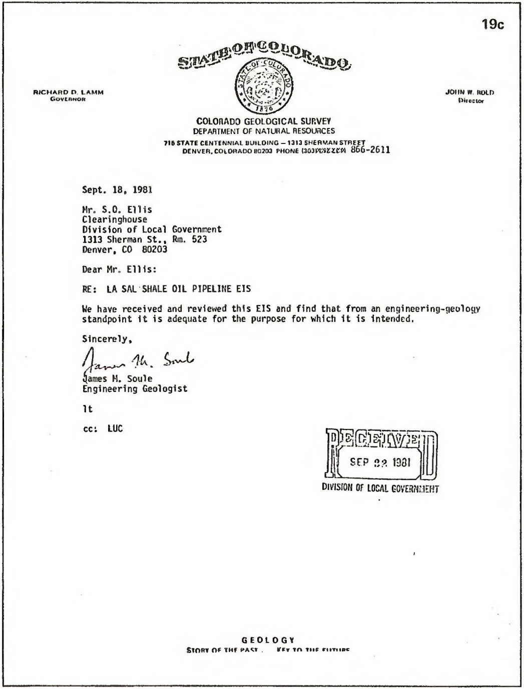
SEP 25 1981
DIVISION OF LOCAL GOVERNMENT



19c

STATE OF COLORADO

1876

RICHARD D. LAMM
GOVERNOR

JOHN W. ROLD
Director

COLORADO GEOLOGICAL SURVEY
DEPARTMENT OF NATURAL RESOURCES
715 STATE CENTENNIAL BUILDING — 1313 SHERMAN STREET
DENVER, COLORADO 80203 PHONE (303) 866-2611

Sept. 18, 1981

Mr. S.O. Ellis
Clearinghouse
Division of Local Government
1313 Sherman St., Rm. 523
Denver, CO 80203

Dear Mr. Ellis:

RE: LA SAL SHALE OIL PIPELINE EIS

We have received and reviewed this EIS and find that from an engineering-geology standpoint it is adequate for the purpose for which it is intended.

Sincerely,

James M. Soule

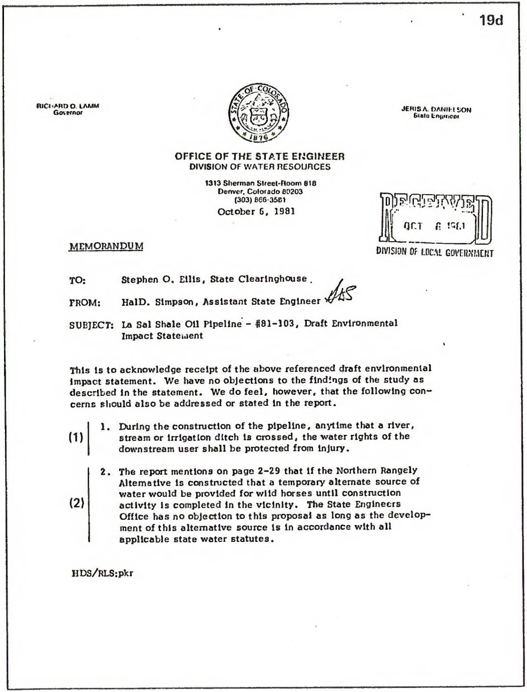
James M. Soule
Engineering Geologist

lt

cc: LUC

RECEIVED
SEP 22 1981
DIVISION OF LOCAL GOVERNMENT

GEOLOGY
STORY OF THE PAST . . . KEY TO THE FUTURE



19d

RICHARD D. LAMM
Governor

JERIS A. DANIELSON
State Engineer

OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES

1313 Sherman Street-Room 818
Denver, Colorado 80203
(303) 866-3581

October 6, 1981

RECEIVED
OCT 6 1981
DIVISION OF LOCAL GOVERNMENT

MEMORANDUM

TO: Stephen O. Ellis, State Clearinghouse

FROM: HalD. Simpson, Assistant State Engineer HDS

SUBJECT: La Sal Shale Oil Pipeline - #81-103, Draft Environmental Impact Statement

This is to acknowledge receipt of the above referenced draft environmental impact statement. We have no objections to the findings of the study as described in the statement. We do feel, however, that the following concerns should also be addressed or stated in the report.

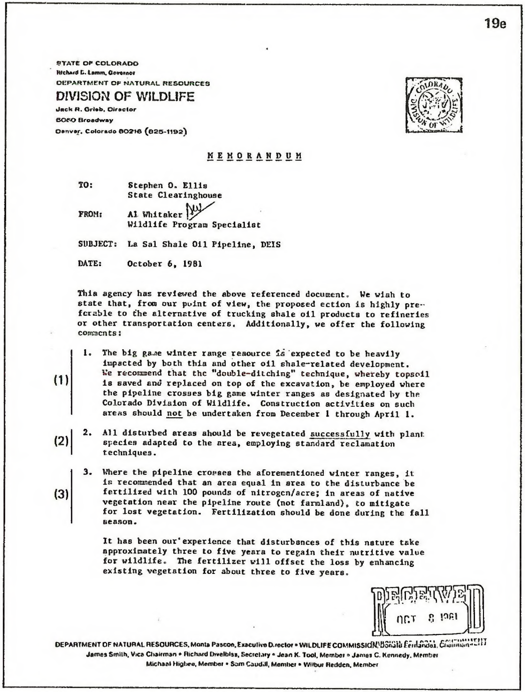
(1) 1. During the construction of the pipeline, anytime that a river, stream or irrigation ditch is crossed, the water rights of the downstream user shall be protected from injury.

(2) 2. The report mentions on page 2-29 that if the Northern Rangely Alternative is constructed that a temporary alternate source of water would be provided for wild horses until construction activity is completed in the vicinity. The State Engineers Office has no objection to this proposal as long as the development of this alternative source is in accordance with all applicable state water statutes.

HDS/RLS:pkr

(1) See the response to letter 18a, comment 5.

(2) The water for use by the wild horses would be obtained in the same manner as for hydrostatic testing as described in the DEIS on page 2-17.



19e

STATE OF COLORADO
Richard D. Lamm, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
Jack R. Grieb, Director
6060 Broadway
Denver, Colorado 80216 (825-1192)

MEMORANDUM

TO: Stephen O. Ellis
State Clearinghouse

FROM: Al Whitaker AW
Wildlife Program Specialist

SUBJECT: La Sal Shale Oil Pipeline, DEIS

DATE: October 6, 1981

This agency has reviewed the above referenced document. We wish to state that, from our point of view, the proposed action is highly preferable to the alternative of trucking shale oil products to refineries or other transportation centers. Additionally, we offer the following comments:

(1) 1. The big game winter range resource is expected to be heavily impacted by both this and other oil shale-related development. We recommend that the "double-ditching" technique, whereby topsoil is saved and replaced on top of the excavation, be employed where the pipeline crosses big game winter ranges as designated by the Colorado Division of Wildlife. Construction activities on such areas should not be undertaken from December 1 through April 1.

(2) 2. All disturbed areas should be revegetated successfully with plant species adapted to the area, employing standard reclamation techniques.

(3) 3. Where the pipeline crosses the aforementioned winter ranges, it is recommended that an area equal in area to the disturbance be fertilized with 100 pounds of nitrogen/acre; in areas of native vegetation near the pipeline route (not farmland), to mitigate for lost vegetation. Fertilization should be done during the fall season.

It has been our experience that disturbances of this nature take approximately three to five years to regain their nutritive value for wildlife. The fertilizer will offset the loss by enhancing existing vegetation for about three to five years.

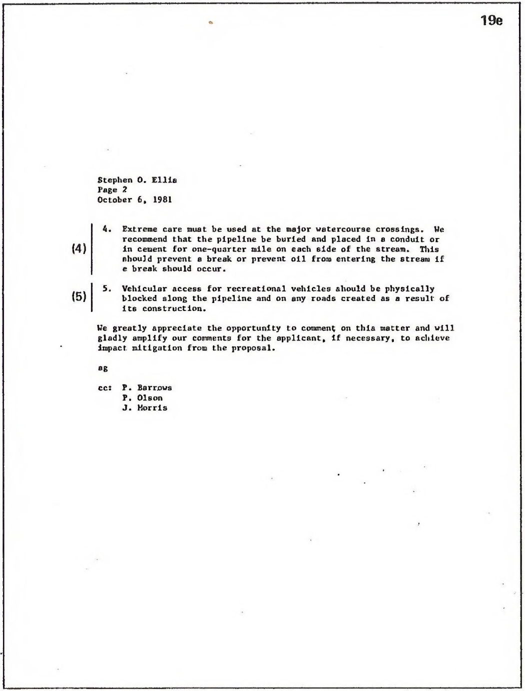
RECEIVED
OCT 8 1981
DIVISION OF LOCAL GOVERNMENT

DEPARTMENT OF NATURAL RESOURCES, Monte Pascoe, Executive Director • WILDLIFE COMMISSION, Donald Fernandez, Chairman
James Smith, Vice Chairman • Richard Divelbiss, Secretary • Jean K. Tool, Member • James C. Kennedy, Member
Michael Higbee, Member • Sam Caudill, Member • Wilbur Redden, Member

(1) BLM will stipulate that double ditching be done where top soil exists. See DEIS, p. 2-16. Wildlife avoidance periods are described in the DEIS on page 2-17 and in Table 2-5 (DEIS, page 2-19, 20).

(2) See DEIS, pp. 2-16 and 2-17. Also, see the response to letter 16, comment 1.

(3) This comment will be referred to the affected BLM District Manager for consideration as a stipulation to the right-of-way grant.



19e

Stephen O. Ellis
Page 2
October 6, 1981

(4) 4. Extreme care must be used at the major watercourse crossings. We recommend that the pipeline be buried and placed in a conduit or in cement for one-quarter mile on each side of the stream. This should prevent a break or prevent oil from entering the stream if a break should occur.

(5) 5. Vehicular access for recreational vehicles should be physically blocked along the pipeline and on any roads created as a result of its construction.

We greatly appreciate the opportunity to comment on this matter and will gladly amplify our comments for the applicant, if necessary, to achieve impact mitigation from the proposal.

ag

cc: P. Barrows
P. Olson
J. Morris

(4) The concern for extreme care at stream crossings is appreciated. The stream crossings would be designed by experienced professional pipeline engineers to withstand any predictable natural event at such crossings. An extra percentage of engineered strength and integrity would then be added for insurance that no ruptures occur during the life of the pipeline. Placing the pipeline in conduit would not necessarily help prevent the possibility of spills. The conduit would be subject to the same environment as the pipeline itself. Cementing the pipeline for a distance on either side of the stream would also result in engineering problems that may actually reduce the integrity of the pipeline. What is required at stream crossings especially (but also along the entire route), is that the pipeline be engineered by qualified and experienced personnel to withstand any anticipated natural event over the life of the project.

(5) Refer to the DEIS, pp. 2-9 through 2-17 of the Project Description (in particular p. 2-13, paragraph 3). "Upon completion of construction, the applicant would close the gap with a locked gate or other approved closure." This implies that the ROW would have barriers at sufficient intervals to discourage use of the cleared pathway by recreational vehicles.

19f

COLORADO DEPARTMENT OF EDUCATION
State Office Building, 201 E. Colfax
Denver, Colorado 80203
Telephone (303) 839-2212
Calvin M. Frazier, *Commissioner*

MEMORANDUM

TO: Stephen O. Ellis, State Clearinghouse

FROM: Roy G. Brubacher

SUBJECT: La Sal Shale Oil Pipeline

DATE: October 9, 1981

I have reviewed the environmental impact statement dated August, 1981 for the La Sal Shale Oil Pipeline and find no problems with the impact statement.

rd

RECEIVED
OCT 13 1981
DIVISION OF LOCAL GOVERNMENT

The Public Utilities Commission has the following comments on the Bureau of Land Managements Draft Environmental Impact Statement on the Proposed La Sal Shale Oil Pipeline Project:

Comments on Construction

1. The EIS contains certain specifications on construction, such as welding, hydrostatic testing, cover depth and pipeline markers referenced to DOT Safety Standards (49 CFR 195, Transportation of Liquids by Pipeline). (1) The EIS should have a general requirement for all other specifications in Part 195 such as design, construction, testing, record keeping, operations and maintenance including the development of a compatible Procedural Manual for operations, maintenance and emergencies (195.402).

(2) 2. The plans for areas subject to geologic hazards such as landslides or slopes underlain by weak rocks should include consideration of possible future fill areas and mudslides similar to those which have caused recent gas pipeline failures in Colorado.

(3) 3. Compliance Check and Monitoring. The EIS should require notification of the Federal Office of Pipeline Safety as to the construction schedule in order that a Federal inspector or his representatives may visit the job site during construction for a compliance check.

(1) The applicant is responsible for complying with all provisions of 49 CFR 195, Transportation of Liquids by Pipeline. The text of the DEIS (p. 2-29) has been changed to reflect this responsibility.

(2) All known areas containing possible geologic hazards (including mudslides) were identified and are discussed in the Geologic Hazards Background Documentation Report. No known fill areas are traversed by the alternative routes. Fill areas associated with pipeline design and protection (should they be needed) would be subject to the approval of the BLM surface protection personnel.

(3) See the response to letter 19g, comment 1.

20

TOWN OF
RANGELY
P.O. BOX 580
RANGELY, COLORADO 81648
Phone 303/675-8611

[illegible]
BUR LAND MANAGEMENT
COLO STATE [illegible]

'81 OCT 13 A7:45

October 6, 1981

James Dean, EIS Coordinator
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, CO 80205

Dear Mr. Dean:

The Town of Rangely wishes to make the following comments on the Draft Environmental Impact Statement, dated August, 1981, for the La Sal Pipeline Company Shale Oil Pipeline.

Proposed Action and the Town of Rangely's Concern

The Draft Environmental Impact Statement (DEIS) was written to assess the environmental effects of granting a 320 mile right-of-way to construct a proposed 16 inch shale oil pipeline from Parachute, Colorado, to Casper, Wyoming. The pipeline would also contain a 12-inch lateral pipeline from the main trunk line to Rangely, Colorado. There are two alternative north and south routes proposed for the lateral pipeline. The Southern Rangely Lateral is the BLM's preferred route since it is closer to known potential sources of shale oil (e.g., the Piceance Basin producers) and would, therefore, be more accessible to future users and require less additional future right-of-way disturbance for connecting pipelines. Appendix A contains a map of the pipeline, which also shows the Colorado and Wyoming counties and towns affected.

The purpose of the project would be to transport upgraded shale oil from the Piceance Basin to existing crude oil transportation facilities at Rangely and at Casper. The estimated life of the pipeline is 30 to 50 years.

The DEIS is intended to assess environmental and social-economic impacts. Rangely's comments will be restricted to the latter since there appear to be minimal biophysical impacts on the Town and its immediate environment. Rangely's comments also address the analysis in "Social and Economic Conditions Background

Documentation Report," Woodward-Clyde Consultants, San Francisco, California (undated), that served as the documented background report for the DEIS. A summary of the findings in the Woodward-Clyde Analysis was included in the DEIS.

Summary of Identifiable Social-Economic Impact

Construction of the proposed La Sal Pipeline would probably occur between June and November 1984. Construction crews would work simultaneously according to the following four spreads:

Spread No. 1 -- Parachute Pump Station to Maybell, Colorado -- 4 months

Spread No. 2 -- Piceance Creek to Rangely -- 2.5 months

Spread No. 3 -- Maybell to Ferris, Wyoming -- 3 months

Spread No. 4 -- Ferris to Casper -- 3 months

The estimated average speed of construction is .8 miles per day in the rough terrain of Colorado and 1.5 miles in Wyoming. In each of the two Colorado spreads approximately 100 construction workers will be needed and there will be 132 workers required in each of the two spreads in Wyoming.

From the description in the DEIS, capsulized above, it is apparent that the project's construction impact on the Town of Rangely will be of short duration, lasting only approximately two or three months in the summer of 1984. There is little or no anticipated impact during the operational phase.

The Town of Meeker will experience most of the operational impact, with about 25 operational workers and their families residing there. Another 10 operational employees will be spread out over various locations along the pipeline, but the social and economic impact is considered negligible. Several mitigation measures for Meeker impact are outlined in the DEIS.

Certain "threshold" figures in the following areas were selected to determine whether or not a projected impact would be significant or not significant:

20

"Construction

- Employment demand on the local work force greater than 15 percent.
- Temporary change in local business receipts greater than 15 percent.
- Demand for temporary housing and other community services that exceeds existing surplus capacities.
- Increase in traffic that would have regional intercity roads operating beyond design capacities for Service Level C, or that would result in a measurable increase in accident rate per million vehicle miles traveled.
- Nuisance factors that result in damage to human health, or loss of livelihood for which compensation is not made.

"Operation

- Permanent population change in Meeker greater than 10 percent.
- Demand for permanent housing and for community services in excess of availability.
- Change in county revenues greater than 10 percent.
- Inability of Rio Blanco County and the Town of Meeker to meet the costs of providing necessary facilities and services to new residents prior to receipt of project revenues."

In general, the DEIS concluded that temporary housing needed during the construction phase is the only significant impact which needs to be addressed by the proponent. The "threshold" figures were not achieved in the other areas of analyses. With specific reference to Rangely, only temporary housing in the construciton phase was considered applicable. Some recognition was given to the effects of cumulative impact, particularly in the case of the Town of Meeker.

(1) It should be pointed out that "threshold" figures are only given for three of the nine categories listed in the DEIS and one must search the Woodward-Clyde report for the remaining figures.

(1) The intent of the DEIS is to summarize from all technical reports findings of only those potential impacts that might be considered significant, as determined by the criteria of significance defined in the Frameworks for Analysis contained in DEIS Appendix B. All of the potentially significant social and economic impacts identified in the Social and Economic Conditions Background Documentation Report are described in the DEIS. Refer to the Background Report for discussion of other potential impacts identified but not considered to be significant, i.e., they do not exceed the thresholds defined in the Framework for Analysis for social and economic conditions.

20

Mr. James Dean
October 6, 1981
Page Four

(1) This makes the DEIS incomplete. With regard to the temporary housing issue, the DEIS states the following:

> Even though the actual need for temporary housing and community services resulting from the proposed action is not large, the incremental demand would constitute a significant cumulative impact in seven of the nine communities assessed. This is because the current housing situation in Parachute, Rifle, Rangely, Meeker, Craig, Maybell, and Baggs is extremely tight, and demand over the next five years is projected to increase due to major planned resource developments. It should be noted that while housing is tight in Parachute, the adjacent new Town of Battlement Mesa will offer a good supply of housing over the next decade. (page 4-8)

The DEIS lists the following mitigation measures to the temporary housing problem:

(2)

1) The applicant could reserve existing local hotel/motel facilities, or mobile home and recreational vehicle spaces, well in advance of construction to ensure that local temporary accommodation will be available when it is needed, or

2) The applicant could accommodate workers in areas where housing is available, e.g., Casper, Battlement Mesa, or winter resort area, and arrange an efficient means of transporting workers longer distances to worksites, or

3) The applicant could assume a responsibility for providing temporary accommodation to construction workers, e.g., a self-contained camp, preferably with some entertainment and recreation facilities

Rangely Comments on the La Sal Pipeline DEIS

The following comments are submitted by the Town of Rangely on the DEIS:

(2) Temporary housing would be sought to the extent possible through existing commercial facilities. Advance reservation would be sought not to mitigate the overall effects of the temporary work force. The purpose of advance reservations would be to mitigate impacts to the existing temporary housing facilities themselves. The advance reservations would enable both the operators of the temporary housing facilities and community leaders to plan for this one effect of the temporary work force. The operators would then be able to work with the applicant to insure that advance reservation would not tie up all temporary housing to the exclusion of all other demands.

Mr. James Dean
October 6, 1981
Page Five

1) Temporary Housing Mitigation. As noted above, the DEIS recognizes that the temporary housing issue is, perhaps, the most serious problem for the Town and will be increasingly so by 1984. The Town recognizes this to be a major problem, but we do not believe it an adequate mitigation measure for La Sal Pipeline Company to reserve, in advance, existing hotel/motel facilities or recreational vehicle spaces. It has not worked to date in the specific case of Western Fuels employees or employees of related or other contractors; there is no existing excess capacity and we do not anticipate any in 1984, which is when the Town will experience peak construction activity. The particular mitigation suggestion does nothing to relieve the problem, but will only place further competition on an already overburdened housing sector. As a principle, the Town believes that new jobs equal new housing, even if it is only temporary. Mitigation measures 2 and 3 are much better solutions for Rangely.

2) Housing for Singles Only? The assumption is that housing will be needed only for bachelors or singles, since most construction workers will not bring their families due to the short-term nature of the job. (See page 39, Woodward-Clyde.) This assertion may be contrary to the actual case in energy construction projects. We believe the assumption should be reexamined and addressed in the Final EIS. Different impacts will (3) occur and different community services will be required, depending on whether families do accompany construction workers. There may be major and intense impact on local services even if it is for a limited duration. For examples, schools may be impacted; if families do accompany workers, the design and construction of temporary housing facilities will be different than if only singles or bachelors must be accommodated, e.g., such as recreational facilities and separate areas for families and singles; community acceptance may be more or less of a problem; more or less police officers will be required, depending on whether there are 100 singles versus 67 singles and 33 married with families; and temporary social services, such as family services, may need to be emphasized.

3) Recreation Facilities. Related to the above is the claim in the Woodward-Clyde analysis that the impact on urban recreational facilities would be minimal. To quote the analysis:

> Because of the speed of construction, workers would be in the vicinity of any particular community only a short period of time. Furthermore, crews would

(3) There is little statistical data available to use as a basis for predictions about the number of dependents accompanying seasonal construction workers. Recent construction of the similar MAPCO pipeline through Colorado resulted in an increase in school enrollment by 37 pupils in Cortez, Colorado, when the workforce of 230 was in that area for approximately 60-70 days (Howerton 1981). A 1979 survey of pipeline construction workers indicated that only 16 percent brought their families with them (Mountain West Research 1979). In order to project a "worst case" estimate of temporary population impacts associated with the proposed action, it is assumed that 25 percent of the construction work force would bring families with them to the area.

The Advance Reports of the 1980 Census of Population and Housing for Colorado show that Garfield, Rio Blanco and Moffat counties have average 1980 household sizes of 2.4, 2.5 and 2.5 persons respectively. If we assume that 25 percent of the workers who would bring dependents along on the construction jobs would bring an average of 1.5 persons each, the 100-person Colorado spread crews would result in a local temporary direct increase in population of approximately 138 persons. The 132-person Wyoming spread crews would result in a temporary direct increase of approximately 182 persons. The DEIS text is changed (p. 4-8) to reflect this reassessment. See the response to letter 20, comment 6.

20

> probably work six ten-hour days per week, so they would have little leisure time to spend in the communities. (page 42)

Due to the isolated nature of Rangely and other communities, it is likely that workers may reside in one community during at least an entire spread. They certainly will not move along with the progress of the construction. Therefore, urban recreational services will be needed for at least the duration of the construction spread and it is specious to assume otherwise. (4) We do not believe that the need for recreational facilities, much less the impact, should be so easily dismissed. The alternative for workers may be the local bars and package liquor stores if the need and desirability of so-called urban recreational facilities are not recognized. The attendant social service impact and impact on law enforcement agencies should be well documented by now.

(5) 4) Cumulative Impact. The DEIS stresses that the project will contribute to cumulative impact on local services. But no attempt is made to address the La Sal pipeline project in the context of cumulative impact; that is, it does not demonstrate how 100 additional temporary workers might further burden Rangely. The La Sal project is treated almost as if it has nothing to do with cumulative impact; the assumption is that La Sal makes no appreciable contribution to the total impact that will be besetting the Town of Rangely in 1984. Not even the total number of living units necessary was identified. This should be identified and addressed.

(6) 5) Cost/Revenue. The Final EIS should address the issue of whether it will cost Rangely more than the revenue derived. Certainly, previous studies must provide a model for such an analysis. The Town should not be required or have the responsibility to determine the public fiscal balance of the project.

6) Contacts. Very few contacts were made in the Town of Rangely about the social-economic impact of the project, which leads us to believe either that we can expect insignificant impact on the Town, or that impact on the Town during construction is not considered a serious issue by the BLM.

Plan of Operation

In additon to the specific items mentioned above, which should be addressed in the Final EIS, the Plan of Operation for the

(4) The Social and Economic Conditions Background Documentation Report contains an inventory of urban recreation facilities, including bars and restaurants, in communities potentially affected by the proposed action. In addition, a separate analysis was done for potential impacts of the project workforce on non-urban recreation resources.

The cumulative demand of workforces throughout northwestern Colorado for recreation and other community services is recognized as an important issue of concern to both local residents and workers. The specific impact of the La Sal project workforce on the town of Rangely, however, was not considered to be of sufficient duration or magnitude to warrant construction of new urban recreation facilities. In the worst case, approximately 100 workers, with approximately 38 dependents, would reside in the Rangely area for a maximum of 2.5 months. See the response to letter 20, comment 6.

(5) The issue of cumulative impact is addressed throughout the Social and Economic Conditions Background Documentation Report (see, for example, pp. 1-2, 9, 13-16, 33, 39, 47, 51). In fact, the relatively small incremental service demands of the La Sal workforce are considered to be potentially significant only because of the cumulative impact of the many energy resource development projects scheduled for the same approximate time period.

Revised projections of work force and dependents (see response to letter 20, comment 2) indicate that construction workers would need approximately 25 units for married workers with dependents and 75 units for single or unaccompanied workers in Rangely for up to 2.5 months. Again, it should be emphasized that this is a worst case projection. Many current residents of Rangely are experienced pipeline construction workers, and it is possible that they could become the workers employed for this project. Furthermore, the estimate of units needed for single and unaccompanied workers is probably high, since these workers often share accommodation. See the response to letter 20, comment 6.

(6) The applicant has provided the following estimates.

Based on the assumption that the proposed tank farm near Rangely would be annexed to the Town of Rangely, the applicant has provided the following estimates of property tax revenues (revised 10/30/81):

First Year of Operation

	Low	High
Rangely	$79,500	$84,000
Rio Blanco County	$527,960	$647,960

In the Framework for Analysis for Social and Economic Conditions, a threshold of 10 percent is selected for determining whether a change in county revenues resulting from the proposed action would be significant or not. The same criterion could be applied to revenues at the community level. With current revenues at $481,068 (Manning 1981), even the low estimate of Rangely's property tax revenues for the first year of project operation would exceed a 16 percent increase over current revenue levels. This would constitute a significant beneficial impact on local revenues, provided that the tank farm were annexed to the town.

With depreciation of the property, annual revenues would decrease over time. Over the fifty-year life of the project, total revenues are estimated as follows:

Life of Project (50 Years)

	Low	High
Rangely	$2,650,000	$2,800,000
Rio Blanco County	$26,400,000	$32,400,000

In addition to taxes paid by the project directly to the county and community, the Town of Rangely would benefit indirectly from increased sales tax revenues resulting from worker spending in the area. According to the U.S. Bureau of Labor Statistics, an average wage of $22,000 per year is spent as follows: 22% on personal income tax and social security payments, 16% on housing, 6% on savings and nontaxable items, 56% (or about $12,500) on taxable items. The Town of Rangely, therefore, would receive approximately $125 in sales tax revenue for each worker resident in the town. Since the 100 La Sal workers would be housed in Rangely for a maximum of 2.5 months, pro-rated sales tax revenues would be an estimated maximum of $2,604.

The Town of Rangely's 1981 operating budget is $481,068 (Manning 1981). With a population currently estimated at 2,200, this is an average per capita annual operating cost of $219. Actual costs to city and county governments for providing services to La Sal workers and their dependents can only be calculated roughly, since actual costs depend on a wide variety of unknown factors, e.g., the sensitivity of a particular service to temporary population growth, the existing capacity and "elasticity" of various facilities and services, and the extent of use of community services by the temporary workforce. Based on the above data on average per capita operating costs, however, it can be assumed in the worst case situation that provision of services to approximately 140 temporary residents for approximately 2.5 months would cost Rangely an incremental $4,600 during the construction year. This would be offset partially by increased sales tax revenues received by the town, plus an estimated $79,500 minimum in tax revenues in the first year of pipeline operation. The Town of Rangely would receive more than $2.5 million over the remaining life of the project, and would incur no further costs since no operating workers would reside in Rangely. As a suggested mitigation measure the BLM will recommend that the applicant's representatives meet with the town of Rangely officials with the object of planning for social and economic effects of construction. One possible method of mitigation may be an advance of future tax revenues to offset a shortfall in revenues and costs to the town due to the temporary work force. The applicant's representatives have indicated their intention of meeting with town officials to help plan for the effects of construction.

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Mr. James Dean
October 6, 1981
Page Seven

La Sal pipeline construction should include the following:

(7) 1) The La Sal Company should contact appropriate local officials responsible for providing governmental facilities and services to keep them informed of anticipated work force size, arrival dates, and the company's temporary housing needs and program. As is noted, this is particularly true with respect to Rangely.

(8) 2) La Sal, coordinated through the Town of Rangely, should work with other companies, such as Western Fuels, which also need temporary housing so an overall program can be developed to meet the various temporary housing needs of energy companies and the Town. Such a program is under consideration by the Town at the present time.

(9) 3) La Sal should make up any deficit in the public fiscal balance that its impact will create in Rangely. This principle is very important if the Town of Rangely expects to cope with cumulative energy impact in addition to the La Sal impact.

Thank you very much for giving us an opportunity to comment on the DEIS. If there are questions, please feel free to contact myself or the Town Manager, Mr. Don Peach.

Very truly yours,

Peggy Rector
Mayor

PR/mks

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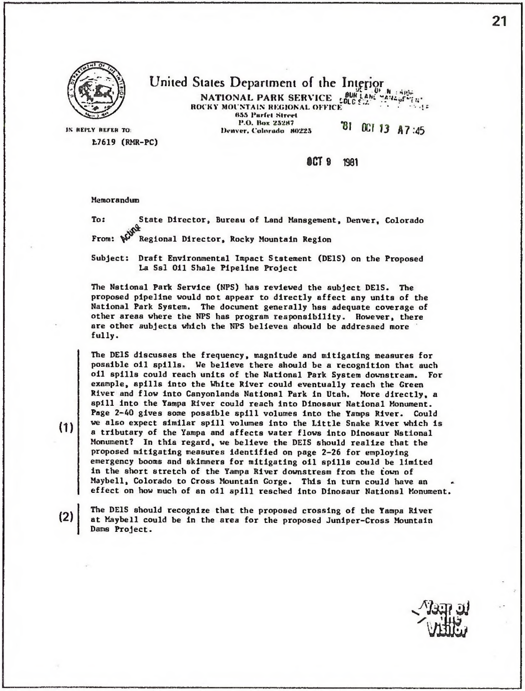
(7) The DEIS text has been revised to reflect this suggestion. See DEIS, p. 2-42.

(8) The DEIS text has been revised to reflect this suggestion. See DEIS, p. 2-42.

(9) See the response to letter 20, comment 6.



21

United States Department of the Interior
NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
655 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

'81 OCT 13 A7:45

IN REPLY REFER TO:
L7619 (RMR-PC)

OCT 9 1981

Memorandum

To: State Director, Bureau of Land Management, Denver, Colorado

From: Acting Regional Director, Rocky Mountain Region

Subject: Draft Environmental Impact Statement (DEIS) on the Proposed La Sal Oil Shale Pipeline Project

The National Park Service (NPS) has reviewed the subject DEIS. The proposed pipeline would not appear to directly affect any units of the National Park System. The document generally has adequate coverage of other areas where the NPS has program responsibility. However, there are other subjects which the NPS believes should be addressed more fully.

(1) The DEIS discusses the frequency, magnitude and mitigating measures for possible oil spills. We believe there should be a recognition that such oil spills could reach units of the National Park System downstream. For example, spills into the White River could eventually reach the Green River and flow into Canyonlands National Park in Utah. More directly, a spill into the Yampa River could reach into Dinosaur National Monument. Page 2-40 gives some possible spill volumes into the Yampa River. Could we also expect similar spill volumes into the Little Snake River which is a tributary of the Yampa and affects water flows into Dinosaur National Monument? In this regard, we believe the DEIS should realize that the proposed mitigating measures identified on page 2-26 for employing emergency booms and skimmers for mitigating oil spills could be limited in the short stretch of the Yampa River downstream from the town of Maybell, Colorado to Cross Mountain Gorge. This in turn could have an effect on how much of an oil spill reached into Dinosaur National Monument.

(2) The DEIS should recognize that the proposed crossing of the Yampa River at Maybell could be in the area for the proposed Juniper-Cross Mountain Dams Project.

Year of the Visitor

(1) As stated in the Oil Spill Analysis Background Documentation Report, "Containment of the slick is possible within several miles of the spill; by this point the soluble fraction would have been reduced to below the minimum levels causing acute reactions." The areas of concern to the National Park Service are well downstream of the crossing sites of the Yampa, White, and Little Snake Rivers. A more thorough discussion of potential spill effects is given in the Oil Spill Analysis Background Documentation Report. It is acknowledged that emergency booms and skimmers may not be employable in the canyons downstream of the proposed and alternative crossings of the Yampa River due to the rugged terrain. However, the surface fraction at this point would be very small as stated in the Oil Spill Analysis Background Documentation Report on pages 14 and 22.

(2) See the response to letter 14, comment 2.

(3) The framework on page B-2 for discussion of air quality seems to be project-oriented. We suggest that there could be a discussion of secondary impacts to air quality related values from such things as increased vehicle emissions and greater use of wood stoves from the growing population associated with workers on the pipeline project.

James B. Thompson

'81 OCT 13 A7:45

(3) Secondary impacts on air quality would consist mostly of the effect of vehicular emissions associated with the project. Growth-related emissions, such as those from home heating, would also contribute. Because the construction work force would be much larger than the operational work force, these impacts would be greatest during construction. However, construction impacts would be temporary and would not be expected to affect regional air quality. Thus, these impacts would not be significant.

Secondary emissions due to operation would be spread over a large area, depending upon housing patterns. These emissions are not expected to have a significant impact on air quality. See Air Quality Background Documentation Report, pp. 13 and 18.

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON VA. 22092

[illegible] BUR LAND [illegible]
OCT 6 1981

Memorandum

'81 OCT 14 A7

To: James Dean, EIS Coordinator
Bureau of Land Management, Denver, Colorado

From: Acting Assistant Director for Resource Programs

Subject: Review of draft environmental statement for La Sal Oil Shale Pipeline project, Colorado and Wyoming

We have reviewed the draft environmental statement for the La Sal Oil Shale Pipeline project in Colorado and Wyoming.

General Comments

The statement mentions the need to consider impacts of spills on ground water (p. 3-2) but the analysis does not include evaluation of such impacts. (1) The scope of potential ground-water impacts from such spills and any planned or possible mitigating measures should be included. The analysis should include the possible maximum magnitude of a spill from a rupture prior to shutdown of flow and, if appropriate, a discussion of valving and pressure monitoring systems. On pages 3-19 through 3-21 the statement discusses some facilities which will undergo indirect impacts from the development of the shale-oil industry. (2) It should, however, include consideration of available sources of potable water for affected communities, the adequacy of these sources, and the impacts of shale-oil related growth on them.

The potential effect that the pipeline would have on the recovery of the oil-shale resource and also the effect that subsidence from the mining of oil shale might have on the pipeline should be discussed. (3) As the pipeline is to be a common carrier, a discussion of connecting facilities for potential users, especially for Cathedral Bluffs Oil Shale Company, should be included. The proposed pipeline passes directly by the Cathedral Bluffs lease in T. 3 S., R. 96 W.

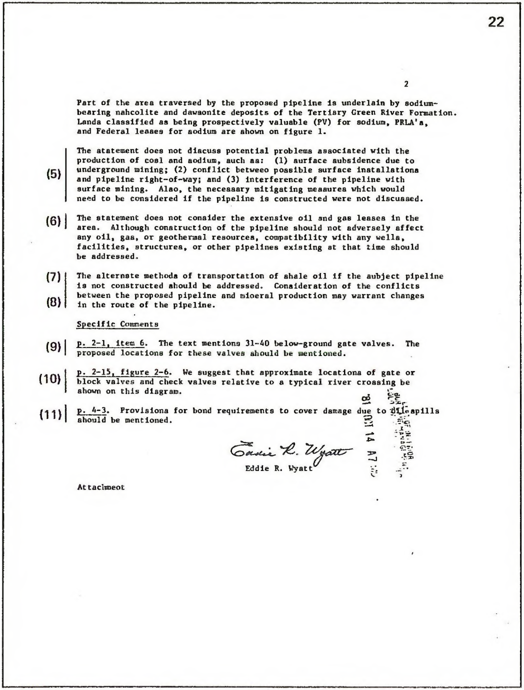
(4) The statement does not address potential problems associated with the production of coal. The entire area traversed by the proposed pipeline is underlain, at varying depths, by Upper Cretaceous Mesaverde Group coal beds. Areas of particular concern are Known Recoverable Coal Resource Areas (KRCRA's), Preference Right Lease Applications (PRLA's), and Federal coal leases which would be traversed by, or in close proximity to, the proposed pipeline (figure 1, attached). Both surface and underground mines are proposed for the area.

(1) See Oil Spill Background Documentation Report which shows that effects of spills would not significantly impact ground water.

(2) See Social and Economic Conditions Background Documentation Report. No potential impacts to community potable water supplies were identified as a result of this project.

(3) The common carrier status of this project implies its use by independent shippers through independent actions. Only one potential shipper (Colony) has been formally identified throughout this EIS process. As applicable, NEPA compliance would be required of other shippers for connecting pipelines if and when other shippers apply for use. Regarding effects of mining on subsidence, see the responses to letter 3, comment 2 and letter 7, comment 1.

(4) See Minerals Background Documentation Report. Results from the analysis of potential conflicts with current or future minerals production showed that no significant conflicts would occur. See the response to letter 3, comment 2.



22

Part of the area traversed by the proposed pipeline is underlain by sodium-bearing nahcolite and dawsonite deposits of the Tertiary Green River Formation. Lands classified as being prospectively valuable (PV) for sodium, PRLA's, and Federal leases for sodium are shown on figure 1.

(5) The statement does not discuss potential problems associated with the production of coal and sodium, such as: (1) surface subsidence due to underground mining; (2) conflict between possible surface installations and pipeline right-of-way; and (3) interference of the pipeline with surface mining. Also, the necessary mitigating measures which would need to be considered if the pipeline is constructed were not discussed.

(6) The statement does not consider the extensive oil and gas leases in the area. Although construction of the pipeline should not adversely affect any oil, gas, or geothermal resources, compatibility with any wells, facilities, structures, or other pipelines existing at that time should be addressed.

(7) The alternate methods of transportation of shale oil if the subject pipeline is not constructed should be addressed. (8) Consideration of the conflicts between the proposed pipeline and mineral production may warrant changes in the route of the pipeline.

Specific Comments

(9) p. 2-1, item 6. The text mentions 31-40 below-ground gate valves. The proposed locations for these valves should be mentioned.

(10) p. 2-15, figure 2-6. We suggest that approximate locations of gate or block valves and check valves relative to a typical river crossing be shown on this diagram.

(11) p. 4-3. Provisions for bond requirements to cover damage due to oil spills should be mentioned.

Eddie R. Wyatt

Eddie R. Wyatt

'81 OCT 14 A7 :02
BUREAU OF LAND MANAGEMENT

Attachment

(5) See the response to letter 22, comment 4.

(6) See the response to letter 22, comment 4.

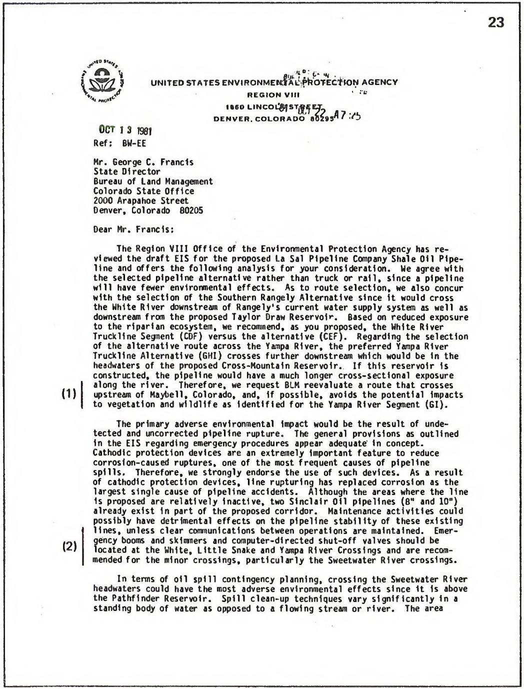
(7) See the discussion of the no-action alternative throughout the analyses, and the DEIS, but especially DEIS pp. 2-41 and 4-9.

(8) See the response to letter 22, comment 4.

(9) Locations of the below-ground valves will be designated in the Plan of Operations. Generally, however, they would be located within areas to be disturbed, as analyzed in the EIS.

(10) See the response to letter 22, comment 9. Distances from selected river crossings were used as one basis for the oil spill effects analyses.

(11) Requirements for payment of possible damages are standard BLM stipulations to a Grant of Right-of-way.



23

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

81 OCT 22 A7:45

OCT 13 1981
Ref: BW-EE

Mr. George C. Francis
State Director
Bureau of Land Management
Colorado State Office
2000 Arapahoe Street
Denver, Colorado 80205

Dear Mr. Francis:

The Region VIII Office of the Environmental Protection Agency has reviewed the draft EIS for the proposed La Sal Pipeline Company Shale Oil Pipeline and offers the following analysis for your consideration. We agree with the selected pipeline alternative rather than truck or rail, since a pipeline will have fewer environmental effects. As to route selection, we also concur with the selection of the Southern Rangely Alternative since it would cross the White River downstream of Rangely's current water supply system as well as downstream from the proposed Taylor Draw Reservoir. Based on reduced exposure to the riparian ecosystem, we recommend, as you proposed, the White River Truckline Segment (CDF) versus the alternative (CEF). Regarding the selection of the alternative route across the Yampa River, the preferred Yampa River Truckline Alternative (GHI) crosses further downstream which would be in the headwaters of the proposed Cross-Mountain Reservoir. If this reservoir is constructed, the pipeline would have a much longer cross-sectional exposure along the river. Therefore, we request BLM reevaluate a route that crosses upstream of Maybell, Colorado, and, if possible, avoids the potential impacts to vegetation and wildlife as identified for the Yampa River Segment (GI). (1)

The primary adverse environmental impact would be the result of undetected and uncorrected pipeline rupture. The general provisions as outlined in the EIS regarding emergency procedures appear adequate in concept. Cathodic protection devices are an extremely important feature to reduce corrosion-caused ruptures, one of the most frequent causes of pipeline spills. Therefore, we strongly endorse the use of such devices. As a result of cathodic protection devices, line rupturing has replaced corrosion as the largest single cause of pipeline accidents. Although the areas where the line is proposed are relatively inactive, two Sinclair Oil pipelines (8" and 10") already exist in part of the proposed corridor. Maintenance activities could possibly have detrimental effects on the pipeline stability of these existing lines, unless clear communications between operations are maintained. Emergency booms and skimmers and computer-directed shut-off valves should be located at the White, Little Snake and Yampa River Crossings and are recommended for the minor crossings, particularly the Sweetwater River crossings. (2)

In terms of oil spill contingency planning, crossing the Sweetwater River headwaters could have the most adverse environmental effects since it is above the Pathfinder Reservoir. Spill clean-up techniques vary significantly in a standing body of water as opposed to a flowing stream or river. The area

(1) The preference of alternative routes for the Yampa River Crossing was reevaluated by the BLM. See DEIS pp. 3, 4-12, and 4-17.

(2) See the response to letter 22, comment 9. Automatic check valves would be placed at major river crossings. See the Oil Spill Analysis Background Documentation Report.

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between the proposed line and the reservoir is a National Wildlife Refuge, which would further complicate clean-up activities. The mean temperature for the Pathfinder Reservoir is warmer (a minimum of 5.7° and maximum of 8.9°) than any other crossing. Higher temperatures mean a significant dispersion rate for the spilled product, should it reach the reservoir. Cathodic protection and weighting of the pipe in this area should be required.

During stream crossing construction, we recommend trench material be removed and temporarily stockpiled on shore within the staging area to reduce sedimentation. Staging areas where possible, should be moved back beyond the riparian vegetation zones to protect these floodplain areas. There are numerous details to be reviewed regarding the site-specific construction design plans for the proposed river crossings. Therefore, EPA will defer further analysis until we review the permit applications for the necessary Section 404 permits.

Based upon our process for rating the adequacy of environmental impact statements, we will list the La Sal Pipeline EIS in Category LO-2 in the Federal Register. This means EPA has no objections to the selection of the pipeline alternative although we do request a review of the Yampa River crossing alternative. EPA will conduct a more detailed construction review during the 404 permit process. Please contact Wes Wilson of my office at 837-4831 if we can be of further assistance in this matter.

Sincerely yours,

Steven J. Durham
Regional Administrator

CHANGES TO THE TEXT

This section reproduces pages of the DEIS text which have been changed due to public comment, other agency review and internal review. Changes within the body of the text are indicated in bold type.

for redistribution or exchange of the oil in response to market conditions. The shippers could use the crude oil at one destination or sell the oil for use at other destinations. Since the proposed pipeline would be a common carrier, the ultimate use and destination of the shale oil are unknown and would be determined by discretionary decisions by prospective shippers.

The only formally identified shipper of upgraded shale oil would be the Colony Oil Shale Project at the origin of the pipeline. It is presently a joint operation of Exxon Company, U.S.A. and The Oil Shale Corporation (Tosco Corporation). The identity of the Colony Project as a shipper was stated during the scoping process for the proposed action. Since the response to scoping did not indicate that Colony's use of the pipeline was an issue to be considered further in the EIS, the issue of identified shippers was not pursued further. The Colony Project was analyzed in a 1977 EIS by the BLM.

The initial capacity of the pipeline system would be equal to the intended use by the Colony Project. Additional shippers may be identified up to the maximum capacity of the pipeline. Shippers who wish to use the pipeline in excess of the rated maximum capacity would be prorated. Additional shippers would be subject to the regulations contained in 43 CFR, Part 2880. Compliance with all regulations would be on a case by case basis.

applicant by the Project Manager in each affected BLM State office. At a minimum, the plans would include:

- Plans and Schedules for construction of the pipeline facilities and estimated construction costs
- Plans for the protection of the environment during construction, operation, maintenance, and termination of the pipeline
- Plans for emergency repair of any rupture during operation, containment of effluent, and restoration of damages

Pipeline construction materials would be off-loaded at railheads in Rifle, Colorado and Rawlins, Wyoming. From those points, pipe would be trucked to worksites over a period of approximately two weeks. Piceance Creek Road and Highways 13, 40, 80, 287, and 220 would be used for transportation of supplies.

Pipeline Construction Methods

The applicant has applied for a ROW grant for 50 feet plus the width of the pipe. Construction activities would be confined to the 50-foot ROW for most of the proposed route (see Figures 2-4 and 2-5) although a possible range of 50 to 100 feet of total area could be disturbed by construction activity. Any activity outside of the 50-foot construction ROW would require a temporary use permit (TUP). For the purposes of this EIS, a 100-foot ROW was analyzed so that TUPs could be issued without further need for analysis for NEPA compliance.

Only that portion of the ROW needed for construction would be cleared. Typical construction activities require clearing above-ground vegetation and obstacles from an average 35-foot wide portion of the ROW to allow safe and efficient operation of the construction equipment. Blading of the ROW would not be done unless necessary for the movement of machinery and equipment or for the ditching required for the installation of pipe (for instance, it is sometimes necessary to blade in areas with steep side slopes). Due to terrain or proximity of existing utilities, there would be some areas for which more than 50 feet would be needed. In these cases, a TUP would be needed for a wider construction ROW.

To further ensure vehicle safety, it may be necessary to construct temporary bridges or culverts across creeks and arroyos on the working side of the ROW. Where this is necessary, road materials would be obtained either from: (1) the ROW, (2) commercial sources, or (3) adjacent lands by permission from surface management agencies (SMAs) or private landowners. If public lands are used as the source of mineral materials, sales would take place as specified in 43 CFR 3610 and 3611. Grading and cut-and-fill excavation would be performed so as to minimize effects on natural drainage and slope stability. Surplus surface soils would be handled in a manner to avoid blocking natural drainages. On steep terrain ~~or in wet areas~~ where the ROW must be graded at two elevations (two-toning) or where diversion dams must be built to facilitate construction, the areas would be restored upon completion of construction to resemble their original condition, or as required by the SMA or private landowner. Excavation and grading may be necessary to increase the stability and decrease the gradient of unstable slopes.

At major river crossings (Table 2-3) cleared working areas approximately 250 feet (river front) x 450 feet would be needed, on each side of the crossing. Precise size and location of these working areas would be determined after detailed engineering analysis, and, TABLE 2-5. (concluded)

Milepost	Critical/Crucial Wildlife Use Areas	Dates During Which Construction Would Be Avoided[1]
~~212.5 - 217.5~~	~~Deer and elk critical winter range~~	~~December 15 to April 15~~[c]
214.0	Prairie falcon nest	May 1 to June 30[c]
223.0	Golden eagle nest	May 1 to June 30[c]
239.5 - 246.0	Antelope critical winter range	December 1 to March 1[f]
247.0 - 250.5	Sage grouse breeding complex	March 1 to June 15[d]
251.0 - 253.0	Mule deer critical area	December 1 to March 1[e]
251.5 - 257.0	Sage grouse breeding complex	March 1 to June 15[d]

[1] Unless authorized by appropriate Area Manager.

[a] Stipulations provided by BLM-Meeker, Colorado.

[b] Stipulations provided by BLM-Craig, Colorado.

[c] Stipulations provided by BLM-Rawlins, Wyoming.

[d] Stipulations provided by BLM State Office, Wyoming WY-81-21.

[e] Stipulation provided by BLM-Casper, Wyoming.

[f] Stipulation provided by Casper-Wyoming Fish and Game.

*Stipulation to be determined by U.S. Fish and Wildlife Service.

proposed Maybell pump station to section 23, Township 7N, Range 96W.

The locations of these trunkline segment alternatives are shown on Map 3 in Appendix F.

The ownership and acreages of lands that would be directly affected during construction and operation of each alternative are listed and summarized in Table 2-7. Table 2-8 lists for each alternative the major river crossings which might require U.S. Army Corp of Engineers' (COE) permits and site-specific construction design plans for construction contractor use.

Finally, the No Action Alternative was considered as an alternative to the proposed action. The No Action Alternative represents BLM denial of the ROW grant to the applicant for construction and operation of the proposed action. Analysis of potential impacts for the two Rangely lateral alternatives, the White River Alternative, the Yampa River Alternative, and the No Action Alternative was conducted at the same level as for the proposed action.

Special Construction Practices for Alternative Routes

If any of the alternative routes is ultimately selected, the applicant would undertake construction and operation using the same practices and procedures as specified under the proposed action section earlier in this chapter. Table 2-9 specifies the dates construction would be avoided to reduce potential impacts to wildlife resources for each alternative. Table 2-10 lists (by mileposts) routing considerations for areas subject to geologic hazards along each alternative.

One important area for wild horses is traversed near MP 1 of the Northern Rangely Lateral Alternative. At this location, wild horses depend on a developed spring as a water source. If it is determined that wild horses are near this area prior to the time of construction, La Sal Pipe Line Company would provide an alternate source of water until construction activity in the vicinity is completed.

AUTHORIZING ACTIONS

In order to implement La Sal Pipe Line Company's proposed action, several authorizing actions would be needed from certain federal, state, and local authorities. Authorizing actions are approvals that take the form of ROW grants, stream crossing permits, microwave communication licenses, and other special-use permits. Given La Sal's proposal, and the alternatives selected for detailed analysis, the following authorizing actions would be needed prior to beginning pipeline construction. **In addition to having to meet the requirements of these authorizing actions, the applicant would be responsible for complying with all provisions of 49 CFR 195, Transportation of Liquids by Pipeline.**

Federal

Bureau of Land Management (BLM). The BLM is responsible for authorizing the actions listed below and for coordinating the preparation of ROW stipulations by affected federal agencies to ensure consistency between agencies.

1. Issuance of a grant of ROW for construction and operation of trunk and lateral pipelines and associated facilities (pump stations, power and communication lines, access roads, cathodic protection system, and microwave towers). The proposed trunkline and facilities would cross 126 miles of federal land from the Roan Plateau near Parachute, Colorado to Casper, Wyoming. The lateral pipeline to Rangely, Colorado, would cross an additional 32 or 38 miles of

Table 2-9. CRITICAL/CRUCIAL WILDLIFE USE AREAS AND PERIODS TO AVOID DURING CONSTRUCTION OF ALTERNATIVES

Milepost	Critical/Crucial Wildlife Use Areas	Dates During Which Construction Would Be Avoided[1]
Southern Rangely Lateral Alternative (AB)		
1.0-5.5	Mule deer critical winter range	December 1 to March 31[a]
6.0	Golden eagle nest	March 1 to July 31[a]
7.0-11.0	Mule deer critical winter range	December 1 to March 31[a]
12.0-12.2	Sage grouse winter ~~concentration~~ area	December 1 to March 31[a]
13.0-15.0	Sage grouse strutting/brooding area	March 1 to May 15[a]
14.0-14.5	Sage grouse winter ~~concentration~~ area	December 1 to March 31[a]
15.0-16.0	Mule deer critical winter range	December 1 to March 31[a]
17.0-19.0	Mule deer critical winter range	December 1 to March 31[a]
18.0	Golden eagle nest	March 1 to July 31[a]
30.0-35.0	Mule deer critical winter range	December 1 to March 31[a]
40.5	Golden eagle nest	March 1 to July 31[a]
Northern Rangely Lateral Alternative (DEB)		
1.5	Golden eagle nest	March 1 to July 31[a]
3.0	Golden eagle nest	March 1 to July 31[a]
4.5 - 14.5	Mule deer critical winter range	December 1 to March 31[a]
23.5	Golden eagle nest	March 1 to July 31
26.0	Golden eagle nest	March 1 to July 31
0.0 - 26.0	Bald eagle winter roosting area	November 15 to April 15[b]
White River Alternative (CEF)		
0.0 - 3.0	Mule deer critical winter range	December 1 to March 31[a]
5.0	Golden eagle nest	March 1 to July 31[a]
6.0 - 10.0	Bald eagle winter roosting area	November 15-April 15[a]
6.2	Golden eagle nest	March 1 to July 31[a]
7.5 - 14.5	Mule deer critical winter range	December 1 to March 31[a]
Yampa River Alternative (GHI) (Including Pump Station)		
0.0 - 1.0	Mule deer critical winter range	December 1 to March 31[b]
6.0 - 10.0	Sage grouse strutting/brooding grounds	March 15 to June 1[b]
20.0 - 33.0	Mule deer critical winter range	December 1 to March 31[b]
22.0 - 23.0	Elk critical winter range and calving area	December 1 to March 31[b]
26.0 - 30.0	Sage grouse strutting/brooding grounds	March 15 to June 1[b]

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[1] Unless authorized by appropriate Area Manager.

[a] Stipulations provided by BLM-Meeker, Colorado.

[b] Stipulations provided by BLM-Craig, Colorado.

due to vandalism, weather, and equipment failure, all of which are included under the "other" causes category.

Predicted Spill Frequency. Accurate spill frequency predictions are difficult to assess for new installations due to the nature of the available data base. As discussed previously, the data base includes all operating liquid pipelines regardless of age or construction methods used, if any, to minimize spills. Therefore, the following spill frequency predictions can be considered as conservative estimates.

Simple calculations of spill frequencies in the form of total accidents expected per mile of pipeline per year can be made by dividing the number of accidents in a given year with the number of existing pipeline miles in operation. Utilization of several years of data will give a more representative number of spills. Table 2-12 lists the spill frequencies for all liquid pipelines for the years 1968-1975. As the data show, the spill frequency rate has decreased by over 50 percent during this period even though the total mileage of pipeline in operation has increased slightly. This can be attributed to older pipelines being taken out of service and the increasing use of cathodic protection systems and coated pipe to inhibit corrosion, one of the leading causes of pipeline leaks.

When the annual accident-per-mile data versus the yearly data from Table 2-12 are fitted to a power law equation, the trend in accidents per mile is easily seen. This trend would indicate that annual rates on the order of 0.001 accidents per mile of pipeline will be the norm for the mid-1980s. Because the La Sal pipeline would be new, it is expected that it would not have any greater yearly accident rate than the predicted national annual rate of 0.001 per mile. Therefore, using the national average for all pipelines and approximately 314-320 miles of pipeline in the La Sal case, the average leak frequency would be on the order of one leak every three years for the system. In interpreting this number, one must keep in mind that the La Sal system would be new and would utilize state-of-the-art technology. Therefore, it should be in a position to operate at less than this frequency.

Predicted Spill Magnitudes. Spill magnitude predictions involving the La Sal pipeline are based primarily on the total throughput of the system. Studies by Beyer and Painter (1977) and others have indicated that pipeline spill magnitudes are more closely related to the total throughput of the pipeline than the quantity spilled versus number of accidents in a given year or set of years. Utilizing this approach, Beyer and Painter have developed the following formula for determining spill magnitudes.

$Qy = 3.6 \times 10^{-6} \times$ yearly throughput (bbls)

where Qy = barrels spilled per spill

Using the projected throughput of 54.75 million barrels per year (150,000 barrels per day), the estimated magnitude of a given spill is about 200 barrels. Therefore, the pipeline may be expected to experience a spill of about 200 barrels (8400 gallons) once every three years.

Maximum Credible Spill Size. An operational event involving maximum spillage would require total severing of the pipeline. Although highly improbable, such an event could occur as a result of accidental damage during excavation near the alignment, improper operation, stream washouts, or sabotage. The pipeline system has been designed to minimize such losses through leak

Table 2-14. SUMMARY OF IMPACTS FOR PROPOSED ACTION AND ALTERNATIVES

	Proposed Action			Alternative Segments						No Action
				Comparison One		Comparison Two		Comparison Three		
				AB	DEB	CDF	CEF	GI	GHI	
Impact Topics	Trunkline	Pump Stations	Operation	Southern Rangely	Northern Rangely	White Proposed	White Alternative	Yampa Proposed	Yampa Alternative	
Climate	0	0	0	0	0	0	0	0	0	0
Air Quality	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Geologic Hazards	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Paleontology	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	0
Mineral Resources	0	0	0	0	0	0	0	0	0	0
Soils	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Water Resources	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Vegetation	(-)	NS	NS	NS	NS	NS	NS	NS	NS	0
Wildlife	(-)	NS	(?)	(-)	NS	NS	NS	NS	NS	0
Cultural	(?)	(?)	NS	(?)	(?)	(?)	(?)	(?)	(?)	0
Visual	(-)	NS	NS	(-)	(-)	(-)	(-)	NS	NS	0
Noise	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Recreation	NS	NS	0	NS	NS	NS	NS	NS	NS	0
Wilderness	0	0	0	0	0	0	0	0	0	0
Livestock Grazing	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Agriculture	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Land Use Controls and Constraints	0	0	0	0	0	0	0	0	0	0
Transportation Networks	NS	NS	0	NS	NS	NS	NS	NS	NS	0
Social and Economic Conditions	CUM	CUM	CUM*	CUM	CUM	CUM	CUM	CUM	CUM	(-)
100-Year Floodplains	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Threatened or Endangered Species	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	0
Wild Horses	0	0	0	0	NS	0	0	0	0	0
Prime and Unique Farmland	NS	(?)	(?)	NS	NS	NS	NS	(?)	(?)	0
Energy Use	NS	NS	(+)	NS	NS	NS	NS	NS	NS	(-)
Spill Effects	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)	0

Key: (-) significant adverse impact, (NS) no significant impact, (+) significant beneficial impact, (?) unknown significance, (0) no impact, (CUM) significant impact due to cumulative effects of anticipated simultaneous developments.

* See responses to letter 20 for a potential significant beneficial impact.

action could be mitigated in a number of ways:

1) **The applicant could contact appropriate local officials responsible for providing governmental facilities and services to keep them informed of anticipated work force size, arrival dates, and the company's temporary housing needs and program.**

2) **The applicant could participate in programs coordinated by local planners to determine and meet the overall temporary housing needs of all companies active in the affected region.**

3) The applicant could reserve existing local hotel/motel facililities, or mobile home and recreational vehicle spaces, well in advance of construction to ensure that local temporary accommodation will be available when it is needed, or

4) The applicant could accommodate workers in areas where housing is available, e.g., Casper, Battlement Mesa, or winter resort area, and arrange an efficient means of transporting workers longer distances to worksites, or

5) The applicant could assume responsibility for providing temporary accommodation to construction workers, e.g., a self-contained camp, preferably with some entertainment and recreation facilities

These measures would help reduce or eliminate the short-term impacts of project construction in affected communities.

Operation. Even though the anticipated operation phase workforce is small, the majority of operation workers would want to settle in Meeker, a town that may be experiencing a development boom over the next decade. Potential impacts were considered significant solely because of the cumulative demands of simultaneous developments. Accommodating the needs of even 25 families is difficult when community facilities and services have virtually no excess capacity.

The applicant could mitigate operation phase impacts by the following:

1) Ensure that local officials and planners responsible for long-range planning of community facilities and services are kept informed of anticipated workforce size and scheduled arrival.

2) Provide information and assistance, if desired, to Rio Blanco County and the town of Meeker to help them prepare applications for loans and grants for needed services and facilities.

3) Work with other companies in the area to identify possible cooperative programs that could help Meeker and Rio Blanco County offset negative social and economic impacts resulting from simultaneous resource development projects.

Other mitigation measures may be desirable to facilitate the housing of operation employees if the housing situation in Meeker is critical in 1985-86. At this time it is impossible to predict accurately housing supply and demand for these years.

Table 3-2. CLASSIFICATION OF POTENTIALLY SIGNIFICANT FOSSIL LOCATIONS ALONG THE PROPOSED TRUNKLINE

Milepost	Fossil Type	Nearby Locality Source
0.0 - 1.0	**Invertebrate**	**Kihm 1981**[a]
7.0 - 13.0	Vertebrates, Invertebrates	
13.0 - 13.2	Vertebrates	Kihm 1981
13.6 - 13.8	Vertebrates	Kihm 1981
15.1 - 15.3	Vertebrates	Kihm 1981
15.5 - 15.55	Vertebrates	Kihm 1981
15.9 - 16.1	Vertebrates	Kihm 1981
16.45 - 16.6	Vertebrates	Kihm 1981
17.65 - 18.1	Vertebrates	Kihm 1981
17.3 - 17.55	Vertebrates	Kihm 1981
18.65 - 18.95	Vertebrates	Kihm 1981
19.5 - 19.6	Vertebrates	
19.95 - 20.4	Vertebrates	
34.0 - 36.7	Invertebrates	Kihm 1981
36.7 - 37.0	Invertebrates	
37.5 - 37.6	Invertebrates	
41.25 - 41.55	Vertebrates	
41.95 - 42.05	Vertebrates	
42.2 - 42.55	Vertebrates	
55.4 - 56.1	Vertebrates	
57.0 - 57.7	Vertebrates	
84.95 - 85.05	Vertebrates	
89.35 - 89.6	Vertebrates	
90.15 - 90.35	Vertebrates	
92.8 - 92.9	Vertebrates	
95.0 - 95.1	Vertebrates	
101.55 - 101.65	Vertebrates	
102.0 - 102.2	Vertebrates	
106.0 - 108.0	Vertebrates	University of CA, Berkeley Museum of Paleontology
111.0 - 141.0	Vertebrates	Unpublished
214.5 - 218.5	Vertebrates	Unpublished

[a] See comment letter 9.

Sources: Kihm, Allan. 1981. Personal communication with Elizabeth McReynolds, Grand Junction BLM.

University of California, Berkeley, Museum of Paleontology, specimen locality maps.

Table 3-4. TOTAL MILES OF POTENTIALLY SIGNIFICANT FOSSILS

	Classification				
Pipeline Route	I	II	III	IV	Total
Proposed Trunkline	2.7	10.15	39.0	0	51.85
Southern Rangely Lateral Alt.	0	1.8	0.5	0	2.3
Northern Rangely Lateral Alt.	0	1.55	0	0	1.55
White River Alt.	0	0.2	0	0	0.2
Yampa River Alt.	0	2.25	0	0	2.25

I - Fossiliferous areas along the pipeline route for which there are undisturbed areas elsewhere with similar fossil assemblages.

II - Localities along the pipeline route near localities known to contain fossils of significant value.

III - Localities along the pipeline route known to contain or with high potential for containing fossils of significant scientific value, and for which detailed references are lacking.

IV - Fossiliferous or potentially fossiliferous areas of extremely high and irreplaceable scientific value.

Table 3-5. LOCATION AND CLASSIFICATION OF STREAM CROSSINGS FOR PROPOSED TRUNKLINE

Stream Crossings[a]	State	Approximate Milepost	Stream Classification[b]	Beneficial Uses
Major Perennial				
White River	Colorado	37	Highest-Valued Fishery Resource	AQU (Warm water); REC2; SUP; AGR
Yampa River	Colorado	71	Highest-Valued Fishery Resource	AQU (Warm water); REC2; SUP; AGR
Little Snake River	Colorado	110	Highest-Valued Fishery Resource	AQU (Cold water): REC1; SUP; AGR
Minor Perennial				
Stewart Gulch	Colorado	15	Substantial Fishery Resource	Not Determined
Piceance Creek	Colorado	16,30,33	Substantial Fishery Resource	Not Determined
Muddy Creek	Wyoming	135	III	FISH (Cold water non-game); REC2; IRR; SWL
Separation Creek	Wyoming	180	IV	SWL
Sweetwater River	Wyoming	234	II	FISH (Cold water game); REC2; IRR; SWL
Horse Creek	Wyoming	239	II	FISH (Cold water game); REC2; IRR; SWL
Fish Creek	Wyoming	243	II	FISH (Cold water game); REC2; IRR; SWL
Casper Canal	Wyoming	265	IV	IRR
Poison Spider Creek	Wyoming	269	IV	SWL

LEGEND

Beneficial Uses

FISH	Fishery
AQU	Aquatic Life
REC1	Primary Contact Recreation
REC2	Secondary Contact Recreation
SUP	Domestic Water Supply
AGR	Agriculture
IRR	Irrigation
SWL	Stock and Wildlife Watering

Stream Classification

The State of Colorado Department of Health (agency authorized to issue discharge permits) classifies streams only by the designated beneficial uses, and does not have numerical classifications. **The State Fish and Wildlife Department has developed a Stream Evaluation Classification, which is presented in this table.**

The State of Wyoming classifies streams as Class I (highest quality, no further degradation allowed); Class II (game fish); Class III (non-game fish); and Class IV (poorest quality and not suitable for any fish life.)

[a] Stream crossings identified on U.S. Geological Survey Topographic maps (1:250,000 scale).
[b] Source: Wagner 1981; Anderson 1981; Squire 1981.

lists the name and location of all perennial streams and rivers that would be crossed by the proposed trunkline. The route would cross three major perennial rivers. These are the White, Yampa, and Little Snake rivers, all in Colorado. The route would also cross three tributaries of the Pathfinder Reservoir in Wyoming. These are the Sweetwater River, Fish Creek, and Horse Creek. Table 3-6 lists the perennial streams and rivers that would be crossed by the alternative routes.

Surface waters in Colorado and Wyoming are classified according to the beneficial uses for which they are presently suitable or are intended to become. Tables 3-5 and 3-6 also show the stream classifications and beneficial uses of all perennial streams and rivers crossed by the proposed trunkline and alternatives. Surface water quantity and quality data are available for several of the perennial crossings (U.S. EPA 1981). Table 3-7 presents certain water quality characteristics for these crossings.

Vegetation

All vegetation types traversed by the proposed action were considered in this analysis. A discussion of the composition of these types, distribution along the proposed action, and total acres within the region of the proposed action is detailed in the Background Report.

The significance of construction and operation impacts to vegetation types represented along the proposed trunkline and alternative routes was determined after consideration of criteria detailed in the Framework for Analysis (Appendix B). Basic components of the criteria include: percent removed, length of disturbance, and nature of the impact. Based on evaluation of data in terms of these criteria, no area has been identified as potentially being affected significantly. ~~Between MP 72-80 riparian vegetation borders the Spring Creek drainage. This section of Spring Creek is perennial/spatially intermittent and supports a relatively well developed riparian flora. Common species include: willow, sedges, and alkali sacaton.~~

Wildlife

The species and species groups identified for inclusion in this analysis include big game, game birds, waterfowl, raptors, sensitive species, and endangered or threatened species. (Sensitive species include those receiving management priority by the BLM. These species are included on such lists as the Migratory Birds of Federal High Interest and the Colorado Resident Species of High Interest.) These groups of species were identified because of high public interest and funds generated, legislative protection, management priority by resource agencies, and their susceptibility to impacts resulting from the proposed trunkline and alternative routes.

The potential conflict of construction activities and habitat removal in known crucial areas was identified as being a potentially significant impact. Crucial or critical areas are defined as those areas important to the maintenance and perpetuation of wildlife populations. Generally these areas are characterized by population concentrations during critical periods, e.g., winter range, breeding, or brooding grounds. Within these areas, populations are very susceptible to human disturbance, and effects on individuals may result in the loss of several generations of progeny.

The significance of construction and operation impacts to critical/crucial areas was considered with respect to criteria detailed in the Framework for Analysis (Appendix B). Based on these criteria, several wildlife resources in specific crucial/critical areas were

Table 3-6. LOCATION AND CLASSIFICATION OF STREAM CROSSINGS FOR ALTERNATIVE ROUTES

Stream Crossings[a]	State	Approximate Milepost	Stream Classification[b]	Beneficial Uses
Southern Rangely Lateral Alternative (AB)				
Major Perennial				
White River	Colorado	41	**Highest-Valued Fishery Resource**	AQU (Warm water); REC2; SUP; AGR
Minor Perennial				
Piceance Creek	Colorado	6	**Limited Fishery Resource**	Not Determined
Yellow Creek	Colorado	13	**Limited Fishery Resource**	Not Determined
Duck Creek	Colorado	17	**Limited Fishery Resource**	Not Determined
Spring Creek	Colorado	28	**Limited Fishery Resource**	Not Determined
Northern Rangely Lateral Alternative (DEB)				
Major Perennial				
White River	Colorado	26	**Highest-Valued Fishery Resource**	AQU (Warm water); REC2; SUP; AGR
Minor Perennial				
Yellow Creek	Colorado	8	**Limited Fishery Resource**	Not Determined
Fletcher Gulch	Colorado	22	**Limited Fishery Resource**	Not Determined
Spring Creek	Coloardo	24	**Limited Fishery Resource**	Not Determined
White River Alternative (CEF)				
Major Perennial				
White River	Colorado	10	**Highest-Valued Fishery Resource**	AQU (Warm water); REC2; SUP; AGR
Yampa River Alternative (GHI)				
Major Perennial				
Yampa River	Colorado	23	**Highest-Valued Fishery Resource**	AQU (Warm water); REC2; SUP; AGR

LEGEND

Beneficial Uses

AQU	Aquatic Life
REC2	Secondary Contact Recreation
SUP	Domestic Water Supply
AGR	Agriculture

Stream Classification

The State of Colorado **Department of Health (agency authorized to issue discharge permits)** classifies streams only by the designated beneficial uses, and does not have numerical classifications. **The State Fish and Wildlife Department has developed a Stream Evaluation Classification, which is presented in this table.**

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[a] Stream crossings identified on U.S. Geological Survey topographic maps (1:250,000 scale).
[b] Source: Wagner 1981; Anderson 1981; Squire 1981.

identified as having the potential to be significantly affected by construction of the proposed trunkline and alternative routes. Descriptions of these resources are summarized below. Background documentation for the assessment of these issues, as well as for other wildlife resources for which no potential significant impacts were identified, is accessible in the Background Report.

Proposed Trunkline. MP 4.5-11.0 - Elk Critical Winter Range. The area between MP 4.5-11.0 is within elk critical winter range. Critical winter range is important for herd survival since these areas are where elk concentrate during the most severe winter weather. Generally, elk critical winter range is located at low elevations where snow depth is not substantial and therefore allows relatively free movement and allows browse to remain available above the snow pack. All of these factors are present in the region of MP 4.5-11.0; therefore, the area is defined as critical winter range.

~~The area bordering Spring Creek (MP 79-80) is designated as crucial riparian habitat because it is an important source of food, water, and cover for a variety of wildlife. In particular, it serves as important brooding habitat for nearby sage-grouse populations~~.

Southern Rangely Lateral Alternative. **Two sage grouse winter areas exist, at MP 12.0-12.2 and MP 14.0-14.5. The percentage of resource potentially affected is >1%, and thereby meets the significance criterion. Modifications have already occurred to the area, which may affect its use, but any such effects are not yet known. The number of birds using each area is small (estimates of 15-20 birds in each area).** The area between MP 30-35 is within deer critical winter range. Critical winter range is important for herd survival since deer concentrate in these areas during the most severe winter weather. Deer critical winter range (as discussed for elk), is generally located at low elevations where snow depth is not substantial and therefore allows relatively free movement and allows browse to remain available above the snow pack. All of these factors are present in the region of MP 30-35.

The total number of deer that use this critical winter range is estimated at 100 and density/square mile is estimated at 165.8 (based on Colorado Division of Wildlife 1040 Distribution Maps). Population status is considered fair and biological status is considered good.

Threatened and Endangered Species

Trunkline and Rangely Laterals. As provided by 50 CFR 402 (Inter-agency Cooperation - Endangered Species Act [ESA] of 1973), the Fish and Wildlife Service (FWS) is required to furnish, at BLM's request, a list of those species, both proposed and listed, that may be or are present in the area involving a federal action.

Upon receipt of the FWS species list, the BLM is required to conduct a biological assessment for the purpose of determining whether those species may be affected by the proposed action or alternatives. Proposed species are included on the list even though they do not have legal protection under the ESA. Their inclusion recognizes that they may be listed at any time, and if not considered they would represent a potential source of future delays or modifications to the proposed action. In light of this, a biological assessment will also be conducted on those species proposed for federal listing.

The biological assessment will be completed within 180 days after receipt of the species list, unless it is mutually agreed upon to extend this period.

The biological assessment should include: the results of a comprehensive information survey, results of any studies undertaken to determine the nature and extent of any impacts on identified species, consideration of the cumulative effects upon the species or its critical habitat, study methods used, difficulties encountered in obtaining data and completing the proposed study, conclusions including recommendations as to further studies, and any other relevant information. In essence, the biological assessment is synonymous with the impact analysis conducted for any other resource that may be affected by the proposed trunkline and alternative routes. If the findings of the biological assessments indicate that a listed or proposed species may be affected, the BLM is required to formally request consultation with the FWS.

A list of federally protected species has been provided by the FWS and is included in Table 3-8.

BLM policy states that **sensitive species or** species which are both state listed and legislatively protected Threatened and Endangered (T&E) be given consideration equal to federally listed T&E species. Wyoming does not have a list of species that are legislatively protected. Colorado does have a listing of essential habitat for T&E wildlife in the state, which is included in Table 3-8.

Cultural Resources

A synoptic BLM Class I inventory for prehistory and history has been conducted for the proposed project by Metcalf-Zier Archaeologists, Inc. and Western Heritage Conservation, Inc. The inventory provides a synthesis of the cultural history of the project area as well as a compilation of previously recorded resources within a one-mile-wide study area centered on the proposed trunkline and alternative routes. By compiling data on known resources within this study area, an indication may be found as to types of sites that can be expected, areas that have been previously inventoried, and areas that may be sensitive for cultural resources. Areas sensitive for cultural resources are those areas with a known or potentially high site density, areas with resources included on or eligible for inclusion on the National Register of Historic Places (NRHP), and areas where insitu subsurface resources and rock art may be located with respect to topographic and/or ecological conditions.

The region through which the proposed project passes has been inhabited periodically since Paleo-Indian time (11,000 years before present). The inventory indicates that 138 previously recorded resources are located in the study area. Of these sites, **104** are prehistoric sites, the majority of which are camps and lithic scatters. Other site types are stone circles and alignments, quarry sites, and a wickiup. Thirty-two of the sites are historic sites that include structures, sheep camps, townsites, trail stations, and trails. One site has both historic and prehistoric material.

Areas where prehistoric resources may be located are near water sources, such as playa lakes, springs, and perennial and intermittent drainages and their confluences; at areas close to subsistence resources such as game trails, wild plants, and tool raw materials; near features which provide shelter from wind and weather; at areas with a sufficient elevation to provide a view point to watch for game and people; and at areas of topographic breaks, such as escarpments and broken hills. Sand dunes have a high potential for containing sites because of their specialized ecology. In highland areas (pinyon-juniper/ponderosa pine), sites have a high likelihood of occurring within 100 meters of a water source and

Table 3-9. (concluded)

Milepost	County	VRM Class	Dominant Visual Features
70-85	Moffat, CO	II	The Yampa River crossing is identified because it is within the segment inventoried by HCRS for potential study as a protected scenic or recreation resource (the segment runs between the Little Snake and Williams Fork tributaries). The landscape along this portion of the river does not exhibit particularly high scenic qualities (both banks have been developed for agriculture). Interstate 40 (1/4 mi) and the close proximity to the town of Maybell (1 mile) make the Yampa crossing extremely visible to the public. The section of pipeline ROW which continues along Spring Creek does exhibit a variety of color, texture and line of high scenic quality.
195	Carbon, WY	IV	**This corridor along U.S. 237 has been identified for study and consideration under the National Trails Act (P.B. 95-625) as the possible corridor for the Continental Divide National Scenic Trail. Because this segment of the landscape contains a major road and an existing pipeline ROW, and does not exhibit unusual scenic qualities, the VRM rating is IV.**
212-215	Carbon, WY	III	Sand Creek Canyon, between Ferris Mountain and Bear Mountain. This canyon exhibits strong form and texture from topographic features and vegetation patterns. Public access is limited to undeveloped roads and trails, somewhat reducing the degree of sensitivity of the landscape. The area is within 15 miles of two major recreation resources (Pathfinder National Wildlife Refuge and Seminoe Reservoir). **Possible consideration may be given to this canyon as an alternative location for the Continental Divide National Scenic Trail.**

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*This table was developed by Woodward-Clyde Consultants' visual resource specialist in consultation with state and district BLM resource specialists and HCRS (Heritage Conservation and Recreation Service -- Mid-Continent Region).

supply reservoirs, and also due to the temporary curtailment of water supply intake from rivers into which a spill occurred upstream.

Evaporation and entrainment of surface or emulsified oil by relatively high background levels of suspended solids (see Table 3-7) could increase the density of the shale oil. A small portion could sink to form bottom deposits or sludge; this would represent a small percentage of the total spill volume.

The Pathfinder Reservoir is used principally for irrigation. Other identified downstream uses could include secondary contact recreation, fishing, irrigation, and stock and wildlife watering. These uses would be temporarily affected, e.g., curtailed for 2-3 weeks, until spill cleanup was completed.

Southern Rangely Lateral Alternative. For the Southern Rangely Lateral Alternative, the White River would be crossed downstream of the Rangely water supply intake. Stream diversions downstream of a spill would likely be discontinued immediately following a large spill. However, small leaks or unidentified, leaks such as larger spills prior to detection, could affect water quality in municipal water supplies, especially in downstream reservoirs. The concentration of certain toxic organics would increase, and contribute to the cumulative organic pollutant load in water supplies.

Northern Rangely Lateral Alternative. One existing municipal water treatment plant is located immediately downstream ~~(less than~~ 6 to 7 miles) of this alternative river crossing. This is at the City of Rangely, Colorado, which withdraws water from the White River. The treatment plant maintains a storage of 1 1/2 days supply in summer and three days supply in winter. For the Northern Rangely Lateral Alternative, a spill in the White River could affect the water supply at Rangely until detected. Once detected, a sufficient reserve supply exists such that water intake could be curtailed while the majority of the spill moved downstream past the intake. However, if a spill resulted in an accumulation of oil on upstream banks, it could continue to affect the water supply during cleanup operations, which could take one to three weeks.

100-Year Floodplains

If above-ground facilities would be located in a 100-year flood-plain, they would be elevated above the 100-year flood level (see Chapter two discussion).

~~Vegetation~~

~~Proposed Trunkline. A significant impact would occur in the Spring Creek area immediately north of the Yampa River near the town of Maybell (MP 72-89). Greater than one percent of the regional riparian vegetation would be disturbed by construction activity. This impact would be considered significant because the riparian community would not be expected to recover to preconstruction conditions within five years.~~

Wildlife

Seasonal restrictions (Table 2-5 and 2-9) on construction in critical/crucial wildlife areas would prevent any significant impacts, i.e., harassment during critical periods, that could result from construction activities. However, habitat removal associated with construction and operation of the proposed trunkline and alternatives would result in the following significant impacts.

Proposed Trunkline. MP 4.5-11.0 - Greater than one percent of elk critical winter range would be removed by construction and operation of the proposed trunkline. This impact would be considered significant for two reasons: this shrub-dominated habitat is critical for winter survival, and the area would not be expected to reestablish within one year. Removal of this portion of elk critical winter range would be a long-term adverse impact.

During the period required for the reestablishment of winter browse species in the proposed corridor, some elk could be lost as the result of insufficient forage. The number of elk lost is not quantifiable due to uncertainty regarding factors and assumptions such as: severity of winter weather; estimated carry capacity of the impacted area and adjacent habitat; quantity and quality of alternate habitat; future big game management policy and level of harvesting allowed. Additional disturbance factors resulting from future projects in the regional area could also influence the level of elk loss.

~~MP 72-80 - Greater than one percent of the riparian community bordering Spring Creek would be removed by construction and operation of the proposed trunkline. This impact would be considered significant because the loss of riparian vegetation would adversely affect more than one generation of the wildlife species, such as sage grouse, which depend on this location for food, water, and cover.~~

Southern Rangely Lateral Alternative. **MP 12.0-12.2 and MP 14.0-14.5 - Greater than 1% of the sage grouse winter areas would be removed. This could be a significant long-term impact, if already accomplished modifications have not reduced either the area's use or the relatively few (15-20) birds using the area. Shrub habitat is essential, and would not be expected to reestablish within one year.** MP 30-35 - Greater than one percent of deer critical winter range would be removed by construction and operation of this alternative. This would be a significant long-term adverse impact because this shrub-dominated habitat, which is critical for winter survival, would not be expected to reestablish within one year.

During the period required for the reestablishment of winter browse species in the ROW, some mule deer could be lost as the result of insufficient forage. The number of deer lost is not quantifiable due to uncertainty regarding factors and assumptions such as: severity of winter weather; estimated carry capacity of the impacted area and adjacent habitat; quantity and quality of alternate habitat; future big game management policy and level of harvesting allowed; additional disturbance factors resulting from future projects in the region.

Threatened and Endangered Species

Presence or absence of significant impacts to threatened and endangered plant and animal species would be determined as part of the U.S. Fish and Wildlife Service Section 7 Consultation. This process has been initiated, and the results from it are expected to be reported in the Final EIS.

Cultural Resources

The Historic Preservation Act of 1966 and 36 CFR 800 require that adequate consideration be given to significant cultural resources. As discussed in Chapter Two, the BLM, in consultation with the State Historic Preservation Officers and the applicant, will use the Class I cultural resources inventory data to develop an inventory plan to locate significant cultural resources. This inventory plan will define the extent and intensity of on-the-ground inventory on federal and non-federal

A major portion of the ROW parallels existing pipelines and roadways where visual contrasts are already evident, thus reducing the quality of the landscape. Contrasts resulting from the proposed action would be less significant in these settings than in unmarred landscapes; however, in particularly sensitive landscapes (such as canyons, valleys, and along exposed ridges) the cumulative effects are considered significant.

Pipeline construction removes vegetation, disturbs existing topographic features, and in some instances creates new drainage patterns. The effect of these activities most frequently results in the introduction of an unnatural line (the ROW) across the landscape, which contrasts noticeably with the existing landscape features. Most contrasts relating to vegetation removal are temporary and can be mitigated through standard reclamation practices within one to two growing seasons. These are considered insignificant unless they occur in pristine (VRM Class I) landscapes (of which there are none in this project environment).

Other landscape features would not recover so easily or quickly, and the visual contrast would remain for a longer period of time (over 2 years) and result in significant visual consequences. Longer-term contrasts frequently occur in rocky and steep-sloping terrain that are difficult to restore and in unstable soils, such as sand dunes.

Trunkline. Significant visual consequences resulting from the proposed trunkline would be as follows:

MP 16-32 - Piceance Creek and surrounding area -- Though a ROW exists (unimproved road and pipeline) along a major portion of the proposed trunkline, the cumulative consequences of additional disturbance to mature vegetation (248 acres of pinyon-juniper) and steep slopes will be significant in this scenic (VRM II) and recreation area (fishing and hunting). Cleared ROW leaves exposed soils which contrast with the existing color and texture of vegetated terrain. Additionally, pipelines are exposed when they cross deep gullies, leaving unnatural lines evident.

MP 37 - White River Crossing -- Existing pipeline ROW is already very evident on the distant slopes in the background of the river, creating an unnatural line in this high-quality landscape (VRM II). Additional construction activities would increase the extent of human modifications noticeable in the landscape setting. Sensitivity is heightened by the viewing distance from State Highway 64 (less than 1/4 mile) and the extensive use of this road for access to recreation resources within the river basin.

MP 70-85 - Yampa River Crossing and Spring Creek area -- Though the landscape at the point of river crossing does not exhibit unusual or unique scenic qualities, the river has been inventoried by **the former** HCRS for study and requires special note. The proposed pipeline crossing is in an agricultural area where recovery potential is excellent for visual disturbances. ~~The Spring Creek section of ROW would result in significant visual consequences if riparian vegetation is cleared along this high-quality natural landscape.~~ The proximity to the town of Maybell increases the sensitivity of the visual consequences of this resource.

MP 106 - Little Snake River -- This VRM Class II area is noted for its unusual landform (badlands). Visual contrasts in line, color, and form are likely to result from pipeline construction in this landscape, which would be within the seen-area of a nearby county road.

MP 195 - Continental Divide National Scenic Trail -- Since the pipeline construction would result in only short-term disruption to the visual characteristics of the foreground landscape, and the proposed ROW follows an existing pipeline, the visual consequences would be insignificant at this crossing, **unless selected as the corridor for the Continental Divide National Scenic Trail, which would greatly increase the significance of visual contrasts in this high quality and fragile landscape.**

MP 212-215 - Sand Creek Canyon -- Though the proposed trunkline parallels an existing pipeline ROW, the added disturbance to ground cover in this fragile dune area would result in highly visible contrasts to the uniform texture and color patterns of natural vegetation. The difficulty of reclamation and the erosion potential in the dune area would result in unnatural lines and evidence of human modification to the landscape, which fail to meet the management objective of a VRM Class III area. Sensitivity of this impact area is somewhat reduced because of limited access to the area.

Southern Rangely Lateral Alternative. Although access to the landscapes along this alternative pipeline ROW is limited to unimproved roads and trails, significant visual consequences would result from having to clear vegetation, disturb soils, and cut along steep slopes in this predominantly natural area. The unnatural line of the pipeline will be highly visible from the air. The potential for erosion where vegetation is cleared from steep slopes is high, resulting in further visual consequences.

Northern Rangely Lateral Alternative. As this alternative pipeline route comes down the ridge at a perpendicular angle on the south side of the White River and ascends the slope to the north of the river, the unnatural line resulting from exposed soils and cleared vegetation would contrast with the existing color and texture of the landscape, creating a significant visual consequence in the VRM II area. Because steep slopes are difficult to revegetate successfully, the potential for erosion and further visual consequences is high. This alternative pipeline ROW is within the seen area from State Highway 64, a primary corridor along the White River resource area, adding to the sensitivity of the contrast.

White River Alternative. The pipeline ROW would be highly visible from State Highway 64 as it ascends the northern slope enclosing the White River landscape. The unnatural line resulting from cleared vegetation and exposed soils would detract from the existing visual feature of the site, such as the meandering line of the river and the dominant form of the bordering mountains. Because the steep slopes would be difficult to revegetate, this evidence of human modification would be visible for well over 2 years.

Yampa River Alternative. The significance of this crossing is directly related to the presence of this segment of the Yampa River on the inventory list compiled by the former Heritage Conservation and Recreation Service (HCRS) for potential study as a scenic or recreational river. Visual consequences at this crossing would be insignificant because the landscape is primarily composed of agricultural lands, where reclamation is enhanced. The remainder of the ROW parallels existing corridor development, negating visual consequences of significance.

Wilderness Resources

No project-related components would be located within a Wilderness Study Area or in other areas under consideration for inclusion in a wilderness program.

Social and Economic Conditions

Construction. Four crews would work simultaneously on four construction spreads, varying in length from 35 to 139 miles. Construction time for each spread would range from 2.5 to 4.0 months. Two spreads would employ 100 workers; the other two would employ 132 workers. Construction phase workers would be approximately 55 percent skilled and 45 percent unskilled.

Construction crews would seek temporary accommodation and services in communities within reasonable commuting distance of construction sites. Because of the rapid rate of construction, they would not remain in one area more than three to four weeks. For the purposes of this analysis, it was assumed that construction workers would be non-local, **that 75 percent would be single or unaccompanied while 25 percent would bring an average of 1.5 dependents each in the area.**

Even though the actual need for temporary housing and community services resulting from the proposed action is not large, the incremental demand would constitute a significant cumulative impact in seven of the nine communities assessed. This is because the current housing situation in Parachute, Rifle, Rangely, Meeker, Craig, Maybell, and Baggs is extremely tight, and demand over the next five years is projected to increase due to major planned resource developments. It should be noted that while housing is tight in Parachute, the adjacent new town of Battlement Mesa will offer a good supply of housing over the next decade.

Operation. Although the operation workforce is very small, it would contribute to the overall cumulative impacts of planned resource development projects in the Meeker area. The number of housing units that would be required to accommodate new residents who come to Meeker as a direct or indirect result of the proposed action is estimated at 40. This figure is obtained by multiplying the number of operations jobs (25) by the employment multiplier (1.6). This figure represents the "worst case", since it is probable that some of these jobs may be held by persons who already occupy homes in Meeker.

The current and projected availability of housing in Meeker is described in Chapter Three. The supply of single-family and rental housing in Meeker is very tight now. If mortgage interest rates drop, this situation could improve in the short term. By 1985-86, however, projected demand for housing in Meeker is extremely high because of simultaneous energy resource developments in the area. If approved, Meeker's new PUD, could accommodate up to 16,000 people and satisfy the town's anticipated housing needs. According to the Rio Blanco County planner, plans for the PUD are progressing. The water system has been planned, and it is expected that some mobile home lots will be prepared this year (Rehburg 1981).

The incremental permanent population associated with the proposed action

The ratio of energy consumed to energy transported is 2.2 x 103, or in other words, the energy used in the pipeline project would amount to less than 0.3 percent of the energy that would be transported by the pipeline. Given this extremely low number and the few miles difference between the length of the proposed versus alternative routes (six miles total difference), differences in energy use between alternatives are indiscernable.

COMPARISON OF ALTERNATIVES

Chapter Two, Alternatives, briefly describes the comparison of four route alternatives and the No Action Alternative which were analyzed at the same level of detail as the proposed action. Tables 4-1, 4-2, and 4-3 provide selected information for comparing alternatives. For the route alternatives, Comparison One compares the southern and northern Rangely laterals, Comparison Two is that of the White River Alternative (CEF, Map 3, Appendix F) with the proposed action segment for crossing the White River (CF, Map 3, Appendix F). Comparison Three is composed of the Yampa River Alternative (GHI, Map 3, Appendix F) and the proposed action crossing of the Yampa (GI, Map 3, Appendix F). Due to the close proximity of route alternatives, there are many aspects of the environment which provide no substantial basis for comparison.

PREFERRED ALTERNATIVES

Comparison of potential impacts for each set of alternatives resulted in the following findings:

Comparison One: Southern Rangely Lateral (AB) versus Northern Rangely Lateral (DEB)

Only 7 percent of the Southern Rangely Lateral would be located near existing utilities, versus 66 percent of the Northern Rangely Lateral. In addition, construction of the Southern Rangely Lateral would result in:

- Disturbance of six additional miles or 73 additional acres
- Potentially significant impact to mule deer critical winter range
- Potentially significant impact to eight additional miles of visual resources, and **several** additional ~~VRM Class II~~ creek ~~or river~~ crossings

Comparison Two: Proposed Trunkline White River Segment (CDF) versus White River Trunkline Alternative (CEF)

Although construction of the White River Trunkline Alternative would result in disturbance of five additional miles or 61 acres more than the Proposed Trunk line segment, other potential environmental consequences were found to be similar.

Comparison Three: Proposed Trunkline Yampa River Segment (GI) versus Yampa River Trunkline Alternative (GHI)

~~The Proposed Trunkline Yampa River Segment would cause potentially significant impacts to vegetation and wildlife that would be avoided by the Yampa River Trunkline Alternative.~~

Based on these findings, the Agencies' Preferred Alternative for Comparison Three is the **Yampa River Trunkline Alternative (GHI).** For Comparison Two, the Agencies' Preferred Alternative is a combination of segments from the Proposed Trunkline and the White River Trunkline Alternative, as illustrated on Map 4-1.

While this analysis indicates that the Northern Rangely Lateral would result in fewer significant environmental impacts than the Southern Rangely Lateral Alternative, the Southern Rangely Lateral Alternative was selected by the BLM as the Preferred Alternative for Comparison **One**. This is because the Southern Rangely Lateral is closer to known potential sources of shale oil; therefore, it would be more accessible to future users and would require less additional future ROW disturbance for connecting pipelines.

Table 4-2. BIOLOGICAL COMPARISON OF ROUTE ALTERNATIVES

Information for Comparison	Comparison One Southern Rangely Lateral Alternative	Comparison One Northern Rangely Lateral Alternative	Comparison Two White River Proposed	Comparison Two White River Alternative	Comparison Three Yampa Proposed[a]	Comparison Three Yampa Alternative[a]
Comparison of Vegetation Disturbed (Acres)						
Desert Shrub	67	65				
Pinyon-Juniper	418	231	127	188	133	24
Sagebrush/Grassland		127			197	434
Riparian	3				0	3
Agriculture	3	6	6	6	6	3
Mountain Shrub	12					
Estimated Number of Threatened and Endangered Species Likely to Occur	0	1	1	1	1	2
Number of Acres of Crucial Wildlife Habitat Disturbed (percent of total)[b]						
Mule Deer Critical Range Winter Range	200 (>1%)	121 (<1%)	30 (<1%)	157 (<1%)	264 (<1%)	173 (<1%)
Elk Critical Winter Range						12 (<1%)
Sage Grouse Strutting/ Brooding Grounds	242 (<1%)				48 (<1%)	97 (<1%)
Sage Grouse Winter Concentration Area	8.5 (>1%)					
~~Crucial Riparian Habitat~~					~~97 (13%)~~	
Golden Eagle Nests (number)	(3)	(4)		(2)	(2)	
Bald Eagle Winter Concentration Area		Entire Corridor				

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[a] Including pump station.

[b] Percent of the total regional resource.

Delineation of crucial wildlife habitat and critical-use periods that would be affected by project activities were based on mapped information, published and unpublished literature, and interviews with various resource agency personnel. These areas have been defined by milepost and included in the project description as areas that would be avoided during important-use periods (see Chapter Two).

AQUATICS

Impacts to crucial habitat and critical-use periods were determined for commercially or recreationally important fish species. No invertebrates were considered commercially or recreationally important in the affected area; in addition, these animals are capable of rapid repopulation and recolonization.

Impacts on crucial aquatic habitat were considered insignificant if: (1) no more than 1 percent of the total available crucial habitat for a particular species within the regional area **(20-mile corridor)** is expected to be disturbed, or (2) the disturbance is expected to be greater than 1 percent, but the impact is anticipated to be beneficial or short term (one year or less or affecting recruitment of only one generation).

Determination of crucial fish habitat was accomplished through interviews with resource agency and university research personnel, in conjunction with literature searches of published and unpublished studies.

Threatened or endangered fish species are being considered on a case-by-case basis as part of the U.S. Fish and Wildlife Service Section 7 Consultation.

AGENCIES CONSULTED

Baggs, Wyoming
    Town Clerk's Office

Bureau of Labor Statistics
    San Francisco, CA

Carbon County, Wyoming
    Office of the County Treasurer
    County Planning Office

Chambers of Commerce
    Casper, WY
    Craig, CO
    Meeker, CO
    Rawlins, WY

Colorado, State of
- Bureau of Economic Analysis
    - Regional Economics Information System
- **Commission of Higher Education**
- **Department of Education**
- Department of Health
- Division of Local Affairs
    - Division of Local Government
    - Division of Planning
    - Division of Property Taxation
- Department of Natural Resources
    - Joint Review Office
- Department of Planning
    - A-95 Clearing House
- Department of Revenue
- Division of Employment and Training
    - Labor Market Information Branch
- **Division of Wildlife**
- **Geological Survey**
- **Historical Society**
- Public Utilities Appraiser
- **Public Utilities Commission**
- **State Engineer**
- State Highway Department
- State Historic Preservation Office

Colorado West Area Council of Governments

Department of Agriculture
- Soil Conservation Service
    - **Denver, CO**
    - Meeker, CO

        Glenwood Springs, CO
        Craig, CO
        Rock Springs, WY
        Rawlins, WY
        Casper, WY

Department of Commerce
    Bureau of the Census
    National Oceanic and Atmospheric Administration

Department of Energy
    Office of Energy Research

Department of Health and Human Services
    Region VIII

Department of Housing and Urban Development
    Region XIII

Department of the Interior
    Bureau of Land Management
        Colorado State Office
            Grand Junction District
                Glenwood Springs Resource Area
            Craig District
                Little Snake River Resource Area
                White River Resource Area

        Wyoming State Office
            Casper District
                Platte River Resource Area

            Rawlins District
                Divide Resource Area
                Overland Resource Area

    Bureau of Mines
        Intermountain Field Operations Center

    Fish and Wildlife Service
        Colorado-Utah Area Office,
        Salt Lake City, UT

    Geological Survey
        Water Resources Division
            Denver, CO
            Cheyenne, WY

        Area Oil Shale Office
            Grand Junction, CO

Water and Power Resources Service **(Bureau of Reclamation)**
    Casper, WY
    Lower Missouri Region, Denver, CO

Department of Transportation
    Federal Highway Administration, Region VIII

Environmental Protection Agency
    Region IX Office, San Francisco, CA

Garfield County, Colorado
    County Treasurer

Moffat County
    Clerk's Office
    Planning Office
    Planning Commission

Parachute, Colorado
    City Clerk's Office

Natrona County, Wyoming
    Office of the County Treasurer

Rangely, Colorado
    Office of the Mayor

Rawlins, Wyoming
    City Planning Office

Rifle, Colorado
    Office of City Government

Rio Blanco County
    County Planning Office

Sweetwater County
    County Clerk's Office

U.S. Army Corps of Engineers
    Sacramento District, CA
        Grand Junction Field Office
    Omaha District, NB

Universities and Colleges
    University of Colorado, Boulder, CO
    University of Wyoming, Laramie, WY

Wyoming, State of
    Board of Equalization
    Department of Administration and Fiscal Control

- Department of Economic Planning and Development
- Department of Environmental Quality
- Game and Fish Offices
    - Baggs
    - Casper
    - Cheyenne
    - Laramie
    - Sinclair
- Employment Security Commission
- **Geologic Survey of Wyoming**
- Highway Department
- Industrial Siting Council
- **Recreation Commission**
- **State Engineer's Office**
- **State Highway Department**
- State Historic Preservation Office
- State Planning Agency
    - A-95 Clearing House
- **Water Development Commission**
- Watershed Management

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Anderson, D. 1981. Colorado Water Quality Control Division, Department of Health. Personal communication with P. Ritter, Woodward-Clyde Consultants.

Bean, B. 1981. Rifle City Government Office. Personal communication with D. Guggenheim, Woodward-Clyde Consultants.

Beard, B. 1981. Building Inspector, Rangely City Office. Personal communication with D. Guggenheim, Woodward-Clyde Consultants.

Beyer, A.H., and L.J. Painter. 1977. Estimating the potential for future oil spills from tankers, offshore development, and onshore pipelines. 1977 oil spill conference proceedings. New Orleans, Louisiana: American Petroleum Institute. March 8-10, 1977.

Buchanan, K. 1981. Real estate broker, Baggs, Wyoming. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Bureau of Land Management. 1977. Final Environmental Impact Statement, Proposed Development of Oil Shale Resources in Colorado.

______. 1980a. Green River - Hams Fork EIS.

______. 1980b. White River Resource Area Umbrella Environmental Assessment.

Colorado Department of Natural Resources (CDNR). 1980. Projections of Northwest Colorado Energy Development and Associated Impacts through the mid-1990s: A Preliminary Regional Perspective Executive Director's Office.

Colorado West Area Council of Governments (CWACOG). 1980. Region XI Population Projections. Municipal and County Population Projections, 1980-2000.

Cutter, R. 1981. Parachute City Clerk's Office, Parachute, CO. Personal communication with D. Guggenheim, Woodward-Clyde Consultants.

DOE: See U.S. Department of Energy

Gilmore, J.S. 1976. "Boomtowns May Hinder Energy Resource Development," Science 191:535-40.

Howerton, F.K. 1981. Superintendent of Schools, Cortez, CO. Personal Communication with M. Feeney, Woodward-Clyde Consultants.

Hunt, H. 1981. Real estate developer, Baggs, Wyoming. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Jones, P.W., R.J. Jacobsen, P.E. Strup, and A.P. Graffeo. 1976. Chemical Characterization of Shale Oil and Related Fuel.

Kane, T. 1981. Housing Coordinator, Battlement Mesa, Inc. Personal communication with M. Feeney and D. Guggenheim, Woodward-Clyde Consultants.

Kihm, A. 1981. Personal communication with E. McReynolds, Grand Junction-BLM.

Longbrake, D. and J.F. Geyler 1979. Commercial Development in Small, Isolated Energy Impacted Communities. Social Science Journal, Vol. 16. No. 2, April 1979.

Manning, D. 1981. Financial Director, Town of Rangely, CO. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Morelle, T. 1981. Moffat County Planning Office, Craig, Colorado. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Mountain West Research Inc. 1979. Pipeline Construction Worker and Community Impact Surveys Final Report. Billings Montana. January 1979.

Murdock, S.H. and Leistritz. 1979. Energy Development in the Western United States. New York: Praeger Publishers.

Nadeau, J.S., and MacKay, D. 1978. Evaporation of Complex Hydrocarbon Mixtures under Environmental Conditions. Spill Technology Newsletter, March-April 1978.

National Transportation Safety Board, Bureau of Accident Investigation. 1978. Special study, safe service life for liquid petroleum pipelines, NTSB-PSS-78-1.

Payne, G. 1981. City of Meeker Planning Office, Meeker, Colorado. Personal communication with M. Feeney and D. Guggenheim, Woodward-Clyde Consultants.

Rehburg, D. 1981. Rio Blanco County Planning Office, Meeker, Colorado. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Roberts, R. 1981. Bureau of Land Management, Meeker, Colorado. Personal communication with M. Busdosh, Woodward-Clyde Consultants.

Smith, C. 1981. Bureau of Land Management, Meeker, Colorado. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Sorenson, R. 1981. Moffat County Planning Office, Craig, Colorado. Personal communication with M. Feeney, Woodward-Clyde Consultants.

Spillman, D. 1981. Rifle City Government Office. Personal communication with D. Guggenheim, Woodward-Clyde Consultants.

Squire, S. 1981. Colorado Department of Health, Division of Water Quality. Personal communication with P. Ritter, Woodward-Clyde Consultants.

Steele, D. 1981. Moffat County Planning Commission, Maybell, Colorado. Personal communication with M. Feeney, Woodward-Clyde Consultants.

University of California, Berkeley, Museum of Paleontology. Specimen locality maps (1:24,000; 1:62,500; and 1:250,000 scale maps).

U.S. Department of Energy (DOE). 1980. Monthly Petroleum Statements.

U.S. Department of Transportation, Office of Pipeline Safety Operations, Washington, D.C. Yearly accident reports, 1968-1976.

U.S. EPA. 1981. STORET Inventory.

Wagner, J. 1981. Wyoming Department of Environmental Quality. Personal communication with P. Ritter, Woodward-Clyde Consultants.

Weisz, R. 1979. "Stress and Mental Health in a Boomtown" in Boomtowns and Human Services, Davenport (ed.). University of Wyoming Publications, Vol. XLIII.

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